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ABSTRACT

This proceedings contains the text or abstracts of presentations made at a conference on undergraduate psychology instruction. The following presentations are included: (1) "Good Testing: An Analysis of Classroom Context," by Rhonda Hustedt Jacobsen; (2) "The Portfolio as a Teaching and Evaluation Tool," by Mary Kay Reed; (3) "Improving Student Learning by Using a Symposium as an Authentic Assessment Technique," by Donald D. Craft; (4) "Teaching Introductory Industrial/Organizational Psychology as a Liberal Arts Subject," by Richard Ruth; (5) "What a Psychologist Learned by Teaching Writing: Improving Technique and Assessment," by Dana S. Dunn; (6) "An Analysis of Traditional Classroom Assessment Techniques and a Discussion of Alternative Methods of Assessment," by Stacey Beth Zaremba and Matthew T. Schultz; (7) "Attitudes and Achievement in Introductory Psychological Statistics Classes: Traditional versus Computer Supported Instruction," by Zandra S. Gratz, Gloria D. Volpe, and Bonnie M. Kind; (8) "Cooperative Testing in Introductory Level Psychology Courses," by Martha O. Meinster and Karen C. Rose; and (9) "The Senior Coordinating Seminar as a Vehicle for Assessment of the Major," by Paul F. Cunningham. In addition, abstracts and references are provided for papers on value-oriented instruction, collaborative case-study learning, extra credit, and critical thinking. (AC)

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ED 365 398

Teaching of Psychology: Ideas and Innovations

Proceedings of the Seventh Annual Conference

March 24 - 26, 1993

Michael S. Hackett and Judith R. Levine, Editors

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The Senior Coordinating Seminar as a Vehicle for

Introduction

The Seventh Annual Conference on Undergraduate Teaching of Psychology was held March 24 - 26, 1993 at the Nevele Country Club in Ellenville, New York. The conference was sponsored by the psychology department of the College of Technology, State University of New York at Farmingdale.

The conference featured two keynote addresses. The first was given by Samuel E. Wood and Ellen Green Wood on "Evaluating Student Learning: Testing for Depth of Understanding". The second keynote address was given by Paul Kaplan and was entitled "Students and the Evaluation Process: Was There Really a Test Scheduled Today?". In addition, there were 41 other presentations as well as an array of publishers' exhibits to visit. Thirteen of the presentations are included in these conference proceedings.

The success of this conference was due to the dedicated work of many people. We extend our sincere thanks to the following people for their efforts on behalf of the conference: Prof. David Griese, Dr. Sandra Hartog, and Dr. Gene Indenbaum who formed the rest of the conference committee; Ms. Barbara Sarringer of the Psychology Department at SUNY Farmingdale for providing administrative assistance; Ms. Sandi Kirschner of Allyn and Bacon Publishers for supporting the presentation by Samuel E. Wood and Ellen Green Wood and for providing a pre-dinner reception; and Donna Hock Wall of West Publishing for arranging for Paul Kaplan to address us.

Michael S. Hackett
Judith R. Levine

CONFERENCE PROGRAM

the 7th annual conference on undergraduate

TEACHING of PSYCHOLOGY:

IDEAS & INNOVATIONS

presented by

The Psychology Department

of

SUNY COLLEGE OF TECHNOLOGY AT FARMINGDALE, NY

Wednesday, March 24 - Friday, March 26

1993

Program

WEDNESDAY, MARCH 24, 1993

Registration & Publishers' Displays 2:00 - 2:40 p.m.

Session 1 2:45 - 3:45

Rm 1 Presider: Judith R. Levine, SUNY Farmingdale, Farmigdale, NY

Workshop: *Bringing Assessment into the Classroom: How Classroom Assessment Can Work for You*
Angela S. Blas, SUNY College of Technology at Farmingdale, NY

Classroom Research, developed by K. Patricia Cross and Tom Angelo, is a learner centered, teacher-directed approach to assessment designed to improve the quality of learning where it matters most--in the classroom. This workshop/presentation will provide an introduction and hands-on practice in "classroom assessment" techniques. Participants will also experience examples of classroom assessment from various disciplines through the viewing of a 15 minute video.

Rm 2 Presider: Robert Bernstein, Marymount University, VA

Teacher Involvement: What's Really Needed in the Psychology Classroom
Patricia S. Laser & Wilma Starr, Bucks County Community College, PA

The most effective learning tool for students is inexpensive -- a teacher who cares. In addition, the teacher must have a solid grasp of the material and present it in an interesting fashion. Both authors will demonstrate a typical classroom experience, and emphasize how they convey their concern for students. In addition, we will present and discuss our assessment measures.

Reinventing the Teaching of Psychology: The Human Side of Teaching
Evelyn Blanch, Central State University, OH

All too often students interested in psychology have expressed discontentment with certain teaching strategies and methods. Frequently, faculty members teaching psychology courses: 1) under utilize students' experiential knowledge 2) preclude any prudent psychological issues relative to all students in an effort to cover textbook materials which often excludes issues relative to diverse populations; and 3) forget to relate theory to practice. With the aforementioned in mind, I will present several teaching methods/strategies that must be reinvented in the 1990s, in order to facilitate and promote active learning involvement for all students at any level.

Session 2 4:00 - 5:00

Rm 1 Presider: Laura L. Snodgrass, Muhlenberg College, PA

"Good Testing": An analysis of the Classroom Context
Rhonda H. Jacobsen, Messiah College, PA

This study delineates the characteristics of evaluation procedures in college classrooms that students have identified as exemplary. The study reveals that positive classroom evaluation procedures are related to some external constraints which are controllable by the institution as well as to instructional dynamics within the classroom.

The Portfolio as a Teaching and Evaluation Tool
Mary Kay Reed, Shenandoah University, VA

A Portfolio Program was established to serve a dual teaching and evaluation function. The Portfolio Program is administrated and monitored by the Psychology Department. The responsibility for completion is the students'. Definite educational progress in the accumulation of knowledge and methods of Psychology has been demonstrated.

Rm 2 Presider: David Andrews, Keene State College, NH

Improving Student Learning by Using a Symposium as an Authentic Assessment Technique
Donald D. Craft, Wytheville Community College, VA

The presentation will center around the process of conducting a public symposium presented by General Psychology students. The symposium is designed to improve student learning and to provide an authentic assessment technique.

Reception 5:30 - 7:00 p.m.

Dinner 7:00 p.m.

INVITED ADDRESS: SAMUEL E. WOOD & ELLEN GREEN WOOD

"EVALUATING STUDENT LEARNING: TESTING FOR DEPTH OF UNDERSTANDING"

INVITED SPEAKER AND RECEPTION COURTESY OF ALLYN AND BACON PUBLISHING

VISIT OUR HOSPITALITY ROOM

THURSDAY, MARCH 25, 1993

Breakfast 8:00 - 9:00 a.m.

Publishers' Displays 9:30 - 4:30 p.m.

Session 3 9:30 - 11:00

Rm 1 Presider: Sandra Hartog, SUNY Farmingdale, NY

Workshop: *Searching PsychLIT on CD-Rom*
Jill W. Payne, PsycINFO User Services, Washington DC

PsychINFO, a division of APA, and producer of outline and CD-ROM databases in psychology (as well as Psychological Abstracts) will present a "Searching PsycLIT on CD-ROM" session. The session is ideal for those who wish to search the database themselves, or those who plan to introduce students to the world of psychological research via PsycLIT. This will be a live demonstration of the database, and features the use of efficient search techniques on the SilverPlatter search software. Use of the on disc Thesaurus to find and enter search terms, searching for author and journal names, and basic SilverPlatter features are shown.

Rm 2 Presider: José Picart, United States Military Academy, NY

Knowledge and Attitude Change in a Human Sexuality Course
Dwight R. Kirkpatrick & Rose E. Ray, Purdue University, IN

Pre-and post-tests measuring knowledge and attitudes of 2,048 students in a human sexuality course were administered across 13 years. Amount of knowledge gain varied according to the year, whereas the rejection of sexual myths improved consistently. Increased acceptance of masturbation was the greatest change in attitude, with acceptance of abortion showing no change over the years.

Teaching Physiological Psychology: The First Course in the Integration and Assessment of Brain Function
Edward J. Holmes, Hampton University, VA

The teaching of psychology is often influenced by the manner in which textbooks organize the material. In physiological psychology, the recent organization of text material seems to be as much influenced by tradition as by any other factor. The results of the author's observations as an active neuroscientist and teacher suggest that the order of presentation of this material to beginning students should be reexamined to achieve a better macro- to microsystem of organization. Such reorganization in class lectures has been observed to improve exam performance and enhance retention levels while maintaining subject interest.

Teaching Introductory Industrial/Organizational Psychology as a Liberal Arts Course
Richard Ruth, University of Virginia, VA

Introductory I/O psychology courses often have an awkward place in an undergraduate curriculum. Psychology majors often find such a course outside their main areas of interest; non-majors may find little attraction in such an offering; and the goals and identity of a course that is not among traditional humanities offerings may become problematic and elusive. It will be argued that some of these dilemmas can be solved -- creatively! -- by viewing an introductory I/O psychology course as a classical liberal arts offering. Lesson plans, exercises, and assignments that capture the approach being outlined will be shared, and the author's experiences teaching such a course will be discussed.

Rm 3 Presider: Nancy Philips, SUNY Farmingdale, Farmingdale, NY

Learning by the "See One, Do One, Teach One" Method
Lyda Sauer, St. Catherine College, KY

Learning and assessment are both enhanced by experiential, active learning. The author discusses specific topics which are taught in a "seeing, doing, teaching," modality which enables students to learn to assess their own and others' learning based on specific outcomes. Specific topics and modalities are presented.

What a Psychologist Learned by Teaching Writing: Improving Technique and Assessment
Dana S. Dunn, Moravian College, PA

I relate my recent experience teaching writing in a core course on communication. I present specific writing techniques and methods of assessment gleaned from this interdisciplinary venture, and recommend appropriate modifications for their use in psychology courses.

An Analysis of Traditional Classroom Assessment Techniques and a Discussion of Alternative Methods of Assessment
Stacey B. Zaremba & Matthew T. Schultz, Moravian College, PA

This presentation will begin with a discussion of the advantages and disadvantages of traditional assessment measures (i.e., multiple choice tests). Suggestions for alternative assessment measures, such as oral examinations and response journals, will be presented and analyzed. Recommendations for how to combine traditional and alternative assessment methods will be offered.

Coffee Break 11:00 - 11:20 a.m.

Session 4 11:20 - 12:50

Rm 1 Presider: Anthony Walsh, Hudson Valley Community College, NY

Panel Discussion: Teaching in the Two Year College: A Mentoring Program
Dennis Nagi & Anthony Walsh, Hudson Valley Community College, NY
Antoinette Cornute, University at Albany, NY
Mary Fondacaro, Hudson Valley Community College & Russell Sage Junior College, NY

Hudson Valley Community College has been participating in an exciting mentoring program with the University at Albany designed to prepare students for careers as two year college teachers. In this program students are given an opportunity to observe and work with two year college faculty in their major areas. This panel will explore with the conference participants the way(s) in which the experience has influenced the participants and their classroom philosophy, teaching techniques, and desire to teach psychology in an exclusively undergraduate environment.

Rm 2 Presider: Patricia Oswald, Iona College, NY

The Ideal Learning Environment: The Student Perspective
Kathleen E. Harring & Laura L. Snodgrass Muhlenberg College, PA

Two studies were conducted using both a questionnaire and a personal interview format to assess student perceptions of the ideal learning environment. Students were then classified according to the Perry (1970) scheme of cognitive development. The results showed both gender differences and differences between class years. The discussion will focus on explanations of the results and how student cognitive development is related to assessment.

The Relation Between Students' Self-Assessment Abilities and Their Standing in Class
William R. Balch, Penn State University-Altoona, PA

Students in an introductory psychology class predicted their numerical scores on a multiple-choice final exam directly before the exam was passed out (pretest prediction) and just after completing the exam (posttest prediction). Based on their all-but-final-exam point totals, students were ranked with respect to class standing and categorized as below average, average, or above average. Accuracy of prediction was related to class standing. I will apply these results toward two practical problems. One is how to advise students on matters of self-assessment. The other is how to gear one's approach to the ability level of the individual student. My data suggests that each of the three levels of academic ability I studied has a distinct self-assessment profile.

Academic and Nonacademic Factors and Success in Introductory Psychology
George Fago & Lori Fitton, Ursinus College, PA

Results of a study on factors predicting success and failure in introductory psychology will be presented. Academic factors studied will include high school GPA and class rank, and verbal and quantitative SAT scores. Nonacademic factors including attention, willingness to seek help, etc. will be investigated using the RACT (Reaction and Adjustment to College Test). The RACT will be factor analyzed and its reliability and validity assessed.

Rm 3 Presider: Lyda Sauer, St. Catherine College, KY

A College-wide Assessment of the Impact of the College Experience on Student Attitudes and Values
John B. Morganti, Thomas Weinberg, Karen O'Quin, & Phillip Santa Maria, SUNY College at Buffalo, NY

This presentation will summarize the results of a questionnaire study of selected attitudes and values in a sample of 131 seniors and 848 incoming freshmen at Buffalo State College. Results revealed that seniors were more likely than freshmen to value intellectualism, believe in academic values, support cultural diversity, and were less likely to value extrinsic values. Gender, race, and age comparisons will also be discussed. Qualitative data supplied by 52 seniors who answered open-ended questions will be used to explore self-perceived bases of attitude and value changes.

A Values Oriented Approach to Evaluating Psychology Programs
Robert A. Bernstein, Marymount University, VA

Classroom assessment and evaluation techniques often ignore the role of value oriented criteria in the development of both psychology programs and individual psychology classes. This presentation suggests a broader approach to examining the utility of a specific program or class, an approach that emphasizes the role of values in program or class development. Such an approach will enable the student to integrate the knowledge that they have into a way of thinking and behaving that is congruent with the goals that our profession promulgates.

Comprehensive Classroom Assessment: A Clinical Approach
Laurie R. Corey, Westchester Community College, NY

The presentation is concerned with assessment of student behavior on many dimensions (multiaxial). Emphasis is on active student participation, development of self awareness, behavior change and mastery. In-class methods of ongoing assessment and the portfolio approach to assessment in psychology will be shared. Attendees will have an opportunity to participate in several assessment exercises.

Lunch 1:00 - 2:00 P.M.

Session 5 2:15 - 3:45

Rm 1 Presider: Laurie Rotando Corey, Westchester Community College, NY

Workshop: *Behavior Modification*
Matthew Margres, Saginaw Valley State University, MI

There are two principle focuses for this course. One is to teach the techniques of B-Mod, and the other is to shape writing and testing skills through systematic assessment. Many of the methods used in this course are readily incorporated into other courses, and such will be emphasized in the workshop.

Rm 2 Presider: Kathleen E. Harring, Muhlenberg College, PA

Using the PC in the Classroom: An Evaluation of Student Learning of Statistics
Patricia A. Oswald, Iona College, NY

This presentation will discuss the use of the PC and overhead projection equipment to assess student learning in the teaching of statistical theory and application. This type of classroom assessment permits an analysis of content mastery, the integration of technology, and the evaluation of oral presentation skills. Pre-post data regarding student attitudes toward this teaching/learning method will also be discussed.

Measurements of Changes in Thinking as a Function of Research Methodology Courses
Jon P. Stanton & Sally N. Wall, College of Notre Dame of Maryland, MD

A test designed to measure changes in scientific/empirical thinking as a function of completed courses in Research Methods for the Behavioral Sciences was validated and administered to several populations of undergraduates. Results are discussed in terms of sensitivity of the instrument to course content, academic setting and individual student variables. Also considered are issues of validation across scientific disciplines and cultural differences within scientific disciplines.

Attitudes and Achievement in Introductory Psychological Statistics Classes: Traditional versus Computer Supported Instruction
Zandra Gratz, Bonnie Kind, & Gloria Volpe, Kean College, NJ

Students participated in either traditional (calculator) or computer (SPSS/PC) supported psychological statistics classes. The efficacy of computer supported statistics was examined with regard to student background, achievement, and attitudes. Results of this study will be presented along with the implications for both faculty and student growth and curriculum development.

Rm 3 Presider: Charles La Jeunesse, College Misericordia, PA

Student-Designed Evaluation in an Undergraduate Educational Psychology Class
Craig W. Platt, Franklin Pierce College, NH

Two of the themes that emerge from the recent literature on college teaching are that a) student motivation can be enhanced by structures that create a sense of democracy and shared control in the classroom, and b) students can benefit in a variety of ways from self-assessment and peer-assessment of their work. This session will describe and evaluate an activity that combined those two elements in an undergraduate Educational Psychology class. In two sections of the course, one a group of predominantly traditional age and the other non-traditional, students worked collaboratively to design the procedure by which a required group teaching project would be graded.

Quantification vs. Qualification: A Comparison of Course Evaluation Methods
Kenneth D. Richardson, Ursinus College, PA

Standardized course evaluation forms are commonly used in educational institutions to minimize bias in interpretation. This goal is desirable, but generates constraints in the range of possible student responses. It is suggested that if instructors are willing to "go the extra mile" and develop an additional measure that reflects specific course goals, they can enrich the data base available for future course development. Some relevant data are discussed.

Coffee Break 3:45 - 4:00 p.m.

Session 6 4:00 - 5:30

Rm 1 Presider: Patricia Laser, Bucks County Community College, PA

Workshop: Teaching and Assessing Self Awareness and Interpersonal Skills Across the Psychology Curriculum
Geri A. Dino, Frostburg State University, MD

This workshop will involve an examination of the usefulness of integrating self awareness (e.g., awareness of one's own values, perspectives and behaviors) and interpersonal skills (e.g., listening and interpersonal problem solving) into the undergraduate psychology curriculum. We will explore how incorporating these skills can assist a psychology department in accomplishing a number of overall programmatic objectives such as enhancing students' active involvement in learning, student empowerment and multicultural awareness, and increasing students' general understanding of human behavior, job-related applications of psychology, and awareness of potential sources of bias in designing and conducting research. We will also discuss techniques for incorporating these skills into a wide variety of psychology courses as well as procedures to assess the effectiveness of these efforts.

Rm 2 Presider: William Balch, Penn State University-Altoona, PA

A Partial Self-Paced Introductory Psychology Course
Paul J. Chara, Loras College, IA

An introductory psychology course that combines elements of a standard lecture format and a self-paced, modified Keller system is described. Students can earn from 60-70% of their final grade through self-paced exams based on the textbook. The remaining 30-40% of the course grade is earned through in-class activities: attendance, quizzes, and an optional cumulative final exam. Student grades over the past six classes have been found to reflect diligence in completing the self-paced exams: the earlier in the semester students complete the exams, the higher their grades.

Cooperative Testing in Introductory Level Psychology Courses
Martha O. Meinster & Karen Rose, Holy Family College, PA

Cooperative testing is an idea which grows out of Johnson and Johnson's (1987) work on cooperative learning. Small scale applications of the procedure (cf. Farland and Gullickson, 1984) have produced positive affective changes with mixed impacts on performance. We will present the results of a study in which students had the option of working cooperatively on two of the six tests.

Teaching Psych 101 as a Discussion Course
Kurt Wallen, Neumann College, PA

A discussion format course used to teach General Psychology is described. Lectures and content based tests are eliminated. Varied techniques to evaluate students and to stimulate thinking and discussion are described. Outcomes include student generated responses that enable the instructor to teach more effectively and meaningfully.

Rm 3 Presider: David A. Griesé , SUNY Farmingdale

Can William James be Used to Teach Freshmen in the 1990's --- Multiple Perspective Instruction
David B. Andrews, Keene State College, NH

This presentation reports on a course using William James's Principles of Psychology as the text in an introductory psychology course in 1990. In addition 20 more current monographs were clustered as multiple perspectives for student discussion. The multiple perspective method, now a college-wide FIPSE project will be discussed as a more general teaching methodology.

Developmental Assessment of Psychological Discourse: From Tyro to Pro
Elaine K. Thompson & Christopher Trigani, Georgian Court College, NJ

This presentation will describe a pilot program initiated at Georgian Court College to assess the development of speaking skills related to current issues in psychology. Sample videotapes will illustrate presentations by freshmen students, mid-level majors, and seniors in their capstone seminar. This project is intended to extend traditional evaluation of student learning to include a portfolio approach to the teaching of psychology.

Promoting Critical Thinking and Scientific Literacy: Notes from General Education Curriculum Reform

Arnold Kozak, SUNY at Buffalo, NY

This talk discusses a method of collaborative learning, consisting of team learning and the case method approach, designed to enhance reflective judgment type of critical thinking, and incorporate means of classroom assessment. A course outline, case example, and case development suggestions will be presented. Insights from general education science reform at SUNY at Buffalo are drawn upon and are timely in a climate where psychology, as a discipline, is concerned with its scientific image and there are nationwide concerns over the lack of scientific literacy at all age levels.

Reception 6:00 - 7:00

Dinner 7:00 p.m.

INVITED ADDRESS: DR. PAUL KAPLAN

"STUDENTS AND THE EVALUATION PROCESS: WAS THERE REALLY A TEST SCHEDULED TODAY?"

INVITED SPEAKER COURTESY OF WEST PUBLISHING COMPANY

VISIT OUR HOSPITALITY ROOM

FRIDAY, MARCH 26, 1993

Breakfast 8:00 - 9:00 a.m.

Session 7 9:30 - 11:00

Rm 1 Presider: Arnold Kozak, SUNY at Buffalo, NY

Workshop: The I and Other: Explorations in General Education
Jack J. Mino & David Ram, Holyoke Community College, MA

This workshop will enable participants to experience an interdisciplinary classroom assessment process by simulating the first day of class from a learning community entitled: "The I and the Other: Explorations of the Self in Society." This learning community examined gender, culture, and class identity focusing on the self in the context of others while achieving the traditionally expected course objective of PSY 110 (Introduction to Psychology) and ENG 101 (Language and Literature!) An entry assessment activity oriented students to the content, theme, and collaborative learning/team teaching process of the course and a similar exit assessment determined student end of semester progress. A course portfolio was used to assess student learning in both subject areas.

Rm 2 Presider: Johnston Beach, United States Military Academy, NY

Beyond Testing and Grading... A Critical Thinking State of Mind
Gordon Whitman, Sandhills Community College, NC

A challenge to instructors to link formal classroom assessment with "Teaching Opportunity", "Learning Moment", and "Critical Thinking". An assessment system is presented designed around core principles but allowing for individual instructor variation. This "System" is outlined to focus on "Critical Thinking" as an ideal goal and behavioral outcome when the process is effectively engaged and implemented.

A Feminist Approach to Teaching and Assessment in a Course in Learning Theory
Patricia E. Ortman, Mount Vernon College, Washington DC

The book Women's Ways of Knowing and its suggested methodologies were used to teach a learning theory course. Lecturing was minimized, discussion was promoted and the educational process was shared in many ways. Assignments included a case study of students' own "ways of knowing," a group presentation, and the construction of a theory of learning and an educational system implied by it. Students positively evaluated the course, suggesting that these teaching and assessment methods may lead to a meaningful educational experience for women.

Goal-Based Assessment of Instructional Impact on Cognitive Outcomes
Kenneth E. Hart & Mark J. Sciutto, Hofstra University, NY

The general purpose of this presentation is to demonstrate a viable way to close the gap between research on educational measurement and the actual use of measurement by teachers. In particular, this presentation will discuss the rationale, method and results of three studies that examined the utility of a goal-based approach to assessing teaching effectiveness in terms of student knowledge gains.

Coffee Break 11:00 - 11:20 a.m.

Session 8 11:20 - 12:50

Rm 1 Presider: Kurt Wallen, Neumann College, PA

Workshop: Instructional Strategies for Active Learning
Johnston Beach & José Picart, U.S. Military Academy, NY

A critical education must both impart knowledge and promote thinking. To encourage thinking requires the classroom to become a laboratory for inquiry. Knowledge must be used, not just acquired. Knowledge of facts and theories is essential, but as a means, not an ends. Its purpose is to inform thought. This workshop offers various instructional strategies designed to promote student thinking. Methods applied are applicable to most psychology courses.

Rm 2 Presider: David A. Griesé SUNY Farmingdale, NY

Dare We Ask Them What They Learned?
Linda L. Dunlap, Marist College, NY

We may have many ideas about how to improve our students' learning, but so do our students. We need to begin to more frequently ask our students what they are learning and how they learn best. If we learn to ask the right questions students often do know what they need.

Who Benefits from Extra Credit?
Mark E. Mattson, Fordham University, NY

Extra credit may be used by an instructor for a number of reasons, including giving students doing poorly another chance, and taking the pressure off of good students that are overly concerned with grades. Analysis of final grades and extra credit grades from 220 students shows that good performers are much more likely than poor performers to do the extra credit. Motivations for assigning extra credit are discussed, and one type of assignment is described.

The Senior Coordinating Seminar As a Vehicle for Assessment of the Major
Paul F. Cunningham, Rivier College, NH

This paper describes the learning objectives, teaching strategies, and assessment methods used in a capstone course for senior psychology majors called "Coordinating Seminar." The course simultaneously addresses graduate school, career, personal development, and program assessment issues. Preliminary data indicate that a capstone course for seniors, such as the Coordinating Seminar, can be an effective vehicle for assessing the relative strengths and weakness of a department's undergraduate psychology program.

Lunch 1:00 - 2:00 pm.

CONFERENCE COMMITTEE:

JUDITH R. LEVINE, CHAIRPERSON
DAVID A. GRIESÉ
MICHAEL HACKETT
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GENE INDENBAUM

BARBARA A. SARRINGER, EXECUTIVE ASSISTANT

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"Good Testing": An Analysis of the Classroom Context

Rhonda Hustedt Jacobsen, Ed.D.
Associate Professor of Psychology
Messiah College, Grantham, PA

"Good Testing": An Analysis of the Classroom Context

Abstract: *Seventeen classes on a college campus were identified by students as having had "good testing." Using statistical data, surveys, and interviews, this study compared those exemplar classes to others on campus. Results show that positive classroom testing procedures are related to external constraints, some of which are controllable by the institution, as well as to instructional dynamics within the classroom.*

Objectives and Framework: Classroom assessment has recently gained support in part because of a realization that the input of students and teachers has been underutilized in research about instruction. Missed opportunities to gather information based on student and teacher experience are evident in the absence of contextual information surrounding student evaluations of classroom instruction. Reliability and validity statistics may abound, but the meaning and the message of student ratings has been largely unexamined.

In this study, standardized student ratings are used to identify classes that have excellent evaluation procedures. Student ratings were drawn from the Instructional Development and Effectiveness Assessment (IDEA) developed at Kansas State University. As with many such instruments, the IDEA form includes an item on "preparing examinations" as part of the section on teaching methods. While statistics and ratings have been gathered for years using this item, no one, according to the IDEA administrators, has ever researched the characteristics of those classes which receive high marks from students on this item. This study seeks to articulate the characteristics of those classrooms which college students identify as having had excellent testing procedures.

Methods: Faculty at Messiah College, a religiously affiliated liberal arts college located in Grantham, Pennsylvania with an enrollment of 2000, are required to have courses evaluated using the IDEA instrument. Classes which had been rated above the ninetieth percentile (90%) on the item of "Preparing Evaluations" in a given semester were identified as "exemplar" classes, and instructors of these courses were contacted by the institution's faculty development officer and asked if they were willing to participate in this study. Seventeen classes were so identified and 100% of the instructors agreed to complete a survey providing information about their testing procedures. Additionally, twenty-seven randomly selected students from these classes completed a brief questionnaire and were individually interviewed about the evaluation methods used in the identified class.

Data: The study uses both quantitative and qualitative methods. Simple descriptive statistics are used to compare the demographics of classes rated as having excellent evaluation procedures to other classes on campus. Faculty descriptions of the evaluation procedures used in the selected classes and student responses to those procedures (as evidenced in questionnaires and interviews) are summarized and analyzed.

Results/Conclusions: Identification of exemplar courses makes it possible to describe characteristics of the select group as compared to other courses in the institution. Analysis of the statistical data suggests five external factors that might increase the likelihood that classroom evaluation will be viewed positively: (1) Have smaller classes. (2) Enroll students in upper division courses within their academic major. (3) Give higher grades. (4) Have classes taught by the most experienced or most inexperienced teachers. (5) Enroll students in performance classes and discourage enrollment in technical or science courses.

Analysis of the qualitative data gathered from teachers and students reveals that there are teacher practices which impact student perceptions of classroom evaluation regardless of institutional constraints. These are summarized in five constructive suggestions that guide classroom evaluation: (1) Be methodical. (2) Allow student input regarding specific content of the evaluation process. (3) Grant students the freedom to fail on occasion without penalty. (4) Emphasize the practical. (5) Personalize the requirements.

Educational Importance: This study delineates the characteristics of evaluation procedures in college classrooms that students have identified as exemplary. The study reveals that positive classroom evaluation procedures are related to some external constraints which are controllable by the institution as well as to instructional dynamics within the classroom.

COVER PAGE

Title: The Portfolio as a Teaching and Evaluation Tool

Name: Mary Kay Reed, PH.D., York College of Pennsylvania

THE PORTFOLIO AS A TEACHING AND EVALUATION TOOL

The buzzwords of the 1990's in Higher Education thus far have been accountability and evaluation. Accreditation associations have demanded that institutions, schools and departments all have their own systems of accountability and evaluation. Performance measures have been called for by education experts, lawmakers and consumers. In the midst of these demands and controversies, it is the faculty member who has been called upon to provide the measures which demonstrate educational progress. The strategies for assessment and the implementation of the evaluation process now rest at the individual faculty member level.

At most small Colleges and Universities, faculty members in Psychology departments are dedicated to providing their students with quality learning experiences. Most Psychology departments serve two constituencies, i.e, their own majors and general education requirements. A major focus of the faculty member's time is spent in planning lectures, demonstrations and evaluations for the general education and advanced classes and in addition providing research and practicum experiences for their majors. Little time and energy is left for assessment of programs.

In order to meet the demands of the traditional faculty workload and the increasing demand to assess the educational progress of the students in ones' department, this author considered an approach which would combine the two. A Portfolio Program, monitored and administrated by the faculty and the responsibility of the student, appeared to be an excellent mechanism.

Portfolios have been employed for many years to demonstrate many abilities, e.g., one's best drawings, one's teaching ability. The Portfolio allows the individual the opportunity to selectivity demonstrate one's best work and at the same time demonstrate improvement in one's work.

After attending a conference on evaluating the effectiveness of Psychology and Sociology Departments sponsored by the Appalachian Evaluation Consortium, discussing with colleagues the practicability of such a system and examining the literature on portfolio programs, as Program Chair of the Psychology Department at Shenandoah University, this author initiated a Portfolio Program in August, 1991.

The Portfolio Program serves three main purposes. First, the Portfolio Program allows the Department to demonstrate that a continual, internal assessment process is occurring. Second, it provides the Department members a measure by which we can determine if course content and requirements are appropriate and effective. Third, it allows the student an opportunity to determine what

constitutes their best efforts and leaves a tangible record of their work behind if letters of reference are requested later in one's career.

The objectives and goals of the program are presented to each continuing and incoming student every Fall semester. Students are also presented with checklists - what must be in the portfolio and what is currently in their personal portfolios. As completion of the portfolio is required for graduation, this fall semester meeting is crucial.

The Portfolio Program consists of two major components. The first component is an objective measure. This is a fifty-item, multiple-choice question test. The test is taken at the beginning of the students' first semester at Shenandoah and again upon completion of the program. Although problems exist with this type of measurement, it does allow for an assessment of content knowledge. Student A did not know Freud before they entered, they do upon completion of the program. Many standardized tests and test companies exist to provide this service. Shenandoah decided against the use of these because of the high cost involved. However, as the Program evolves, it is expected that norms provided by the testing services will be employed.

The second component consists of written work from every required Psychology course and two pieces of non-Psychology work. This component also consists of an audio-tape of the students' presentation of their Senior thesis statement. This component is the part of the program which allows the student and the Department to display the gradual accumulation of knowledge about Psychology and the methods of Psychology. A glaring example of educational progress in the discipline exists in almost every portfolio thus far. The papers from the Introductory Psychology courses are very elementary. Although they are "good" papers, i.e., well-written, nicely-typed and adequately referenced, they do not demonstrate any extensive knowledge of the subject matter and methods of Psychology. The papers from any upper-level course, however, demonstrate APA style, a wide-variety of APA journals, a subject matter crucial to Psychology. In almost every case, the gradual emergence of an undergraduate scholar in Psychology is evident. The Department has produced a "product", i.e., definite educational progress can be demonstrated.

The Portfolio Program has been a definite teaching tool. Most students perceive their personal portfolio as the representation of the work in Psychology. Many select their "best" work from a course. Most redo their papers before they are placed in the portfolios. All of the students have accepted the program with a sense of personal responsibility and an opportunity to discuss with their advisor their overall development in the department.

Improving Student Learning By Using A Symposium As An Authentic Assessment Technique

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IMPROVING STUDENT LEARNING BY USING A SYMPOSIUM AS AN AUTHENTIC ASSESSMENT TECHNIQUE

During the academic year the students in General Psychology 201 and 202 are exposed to many aspects of psychology and psychological research. After completing several minor research projects which are designed to teach students the basics of scientific research, a psychology symposium is undertaken which constitutes a significant portion of the final course grade.

For the project, students are divided into small groups, and a research idea is presented to the instructor. When the idea is approved, the group submits a formal research proposal which must have a minimum of 100 subjects. Then, the actual research proceeds.

Each group then compiles a written document which follows the guidelines of the APA Publication Manual. Additionally, a public symposium is held wherein each group presents its project orally, followed by fielding questions from the audience.

Specific objectives of the Symposium include:

1. Academically:
    a. for students to demonstrate their understanding of various aspects of psychology,
    b. to provide the opportunity for students to

conduct psychological research with emphasis on quality and ethics,

c. to obtain scientific evidence with an open mind, and

d. to analyze data and draw appropriate conclusions.

2. Develop lifetime skills by learning how to:

a. analyze group situations,

b. solve problems cooperatively

c. think critically and objectively

d. organize work,

e. seek help when needed,

f. effectively communicate through writing and public speaking,

g. apply knowledge, and

h. make responsible decisions.

PSYCHOLOGY SYMPOSIUM
Thursday, April 22, 1993
Important Dates

Activity	Due Dates	
	Section 01 Wed.	Sections 02 & 03 Thurs.
Group Membership	Jan. 20	Jan. 21
Topic	Jan. 27	Jan. 28
Hypothesis	Feb. 3	Feb. 4
Method	Feb. 10	Feb. 11
Documents	Feb. 24	Feb. 25

NOTE: After the instructor's approval of the above listed activities, the actual research may begin!

Progress Report	March 10	March 11
Progress Report	March 31	April 1
Progress Report	April 14	April 15

NOTE: There will be a five (5) point deduction from the final score for each calendar day that any of the above items are late. The deduction will be from the score of each member of the late group.

SYMPOSIUM IN GRAYSON COMMONS, 7:30 p.m., APRIL 22, 1993

NOTE: The written paper will be due before or by the time of the regularly scheduled final exam.

During the week of April 26 - April 30 the Psychology classes will not meet. The time is provided for each group to refine the written paper.

PSYCHOLOGY 202
Symposium

REPORT OF THE GROUP LEADER

Group Number _____; Leader _____ (Signature)

Date _____

Please comment on the following items for the group as a whole, and for specific individuals where applicable: (Use additional sheets if necessary.)

A. Attendance at planning/work sessions:

B. Amount of contribution/participation to the total project:

C. Deadlines met:

D. Comments/explanation of the above, or additional information:

PSYCHOLOGY 202
Symposium

I certify to Mr. Craft that, for the Symposium, I attended _____ percent of the planning/work sessions involved with the group project.

In comparison to the other members of my group, I did (check one):

_____ an equal amount of work

_____ a greater amount of work

_____ less than the other members.

Based on the following scale:

135-150 = A
120-134 = B
105-119 = C
90-104 = D
0- 89 = F

My contribution to the group project should receive: _____ points.

(Note: 50 points are automatically awarded for attending the Symposium, bringing the grand total to 200 points.)

(Please use the space below your signature for any comments you wish to make.)

Signed _____

April 22, 1993

SYMPOSIUM GRADE

Name _____

Attendance at Symposium _____

Paper _____

Total _____

*Deductions _____

GRAND TOTAL _____

*Deductions listed:

SYMPOSIUM WRITTEN FORMAT

1. Title, Experimenter(s)
2. Introduction and Review of the Literature. (Why study this? Purpose? Other justification?)
3. Hypothesis(ses)
4. Subjects
5. Equipment (special apparatus, instructions)
6. Procedure (detailed)
7. Presentation of Data
8. Analysis of Data
9. Summary and Conclusions
10. Recommendations (if any)
11. References
12. Appendix

TEACHING INTRODUCTORY INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY AS A LIBERAL ARTS SUBJECT*

Richard Ruth, PhD

University of Virginia

Many discussions about how to teach undergraduate psychology mention common parameters. How do we give students a feel for how scientific psychologists uniquely think without burdening them with details and nuances of scientific method that easily overwhelm, and detract from our main objectives? How do we convey our passion that psychology has a lot to say about the long debates and ultimate questions of the liberal arts tradition when the rapidly increasing sophistication of our science often makes our most interesting contemporary contributions come across as too abstract, atomized and experience-distant? How do we find the right balance between method and findings, classic and contemporary discoveries, the value of appreciating complexity and skepticism and the need for integrative theoretical perspectives? How do we both foster intellectual discipline in our students and foster their creative thinking? Further, we face the challenge of making our concepts and perspectives come alive for students in a classroom intellectual atmosphere that

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* Paper presented at the 7th Annual Conference on Undergraduate Teaching of Psychology, Ellenville, NY, March 24-26, 1993.

affirms our discipline's respect for human diversity, as regards ethnicity, sex, and perhaps also the diversity of views within psychology itself.

This paper will attempt to describe some ways I have tried to think through these questions as they apply to the teaching of an introductory industrial/organizational (I/O) psychology class; some didactic methods and activities derived from this thinking; and some experiences in applying these methods.

Context of the Class

The University of Virginia runs a series of continuing education centers throughout the state. These are guided by a vision (as our dean, Philip Newlin, has put it) that we are not the night school of the University of Virginia -- we <u>are</u> the University of Virginia. Thus, we attempt to bring to a diverse group of students (most, but not all, adult learners) a level of instruction that combines high-level professional preparation with a deep regard for the tradition of liberal-arts discourse. There is an explicitly articulated value that promotes the development in this group of students of an intellectual rigor and outlook that goes beyond the mastery of subject matter narrowly defined. Many of us are engaged in thinking about how to prepare students for a future that is rapidly changing and increasingly complex, where they will be judged on whether they can evaluate critically newly emerging methodologies and theories, and not just on how well they have mastered the already known.

Our Northern Virginia Center, where I teach, is located in the suburbs of Washington, DC. The area embraces extremes of affluence and poverty. Over the past three decades it has changed from a classic Southern white and Black demography (many of my African-American students attended segregated schools) to one with large and growing Hispanic and Asian populations.

The Center offers several certificate programs for educated professionals who have grown into career responsibilities at a distance from their original training, or interested in exploring or acquiring an added module of competence. My course in I/O psychology is often attended by students studying for Total Quality Management or human-resources certificates; undergraduates from local universities pursuing individualized majors; and educators seeking added social-science credits. The students tend to be more female than male, and are culturally quite diverse. There are typically large contingents of government workers and of people in active military service.

The Role of I/O Psychology in a Liberal Arts Curriculum

I/O psychology, not without historical and conceptual justification, tends to be viewed as toward the "hard" end of the spectrum of subdisciplines in psychology, and, if present at all in an undergraduate generic psychology major, marginal to its liberal-arts core and identity. Undergraduate students may have an I/O elective at a school large enough to have diverse offerings; or I/O courses may be included in a business school,

with resulting role and identity tensions for faculty whose primary reference group may be composed of non-psychologists.

Yet I/O psychology has the potential to serve as a uniquely integrative subject area in a liberal arts curriculum. Isaac Asimov, in his Foundation series, saw psychohistory as the core discipline of his dystopian society; its ability to blend the personal with the sociohistorical made the discipline a fulcrum point for thinking about the larger issues in the society and made its interventions uniquely potent. Perhaps analogously, I/O psychology -- with its thinking about how basic psychological science plays out in the worlds of work and organizational life, and its intrinsically close relationships with economics, business, sociology, engineering, politics and history -- has a unique potential to help undergraduates think integratively. I/O psychologists deal with topics such as the role tests play in a diverse society, how to make work groups functional, the impact of computerization on society, the workings of organizational culture, and how to manage the impacts on workers when organizations change. Of course, it is possible to teach these topics in narrow, highly technical ways. But it is also possible to use these topic areas, particularly in an upper-level undergraduate course, to help students to think broadly and engage with large questions -- the core of the classical liberal arts mission, and perhaps the part of that mission most relevant to the task of preparing students to play active, empowered roles in a rapidly transforming social order. As a side benefit, students can be helped to develop deep and sophisticated grasps

of basic psychological theories by seeing how their proponents apply them in real-world business and organizational settings -- how, for instance, a psychoanalyst, vs. a cognitivist, vs. a systems theorist would view a company with a "glass ceiling" and intervene.

Instructional Strategies

Reaction papers. Students in the class are asked to write a one-page reaction paper each week, discussing their critical reactions to the reading and class discussion of the previous week's class. Some students have an extremely difficult time with this, either because of deficient writing skills (when present, these trigger a referral to remedial resources) or because they are unused to being asked what they think, saying what they think, or even thinking about what they think. Particularly in a "hard" (as opposed to "soft") subject, many students tend to view the subject material as technical and objective; at the beginning of the semester, I often comment that the students are summarizing what they read and what was discussed, rather than saying what they themselves think of it.

However, the requirement to make a time for reflection each week and write out what students think of the material, in my experience, has led students to have a much deeper engagement with the course material than might otherwise be the case. To write this systematically, and at this level, requires students to internalize and metabolize the material, and find ways to make it their own. Often this happens when students link a concept to

an experience in the work lives, and think about whether the theoretical construct really makes sense of their lived experience or not, and why.

I have also observed some felicitous side effects of this strategy. Many students report they understand difficult concepts better when they have to explain them back in reaction papers; particularly in a group of adult learners, this double-learning strategy seems to have a positive effect. Regular writing about ideas also helps to develop some old-fashioned habits of mind that often turn out to be as gratifying to the students as they are to me. Perhaps most interestingly, many African-American and Asian students find the writing helpful in that they initially feel reluctant to speak out in a class environment where their communication styles (tending to be more formal and less self-disclosing) are in the minority; the papers, with their inherent opportunity for private and more considered reflection, both form an alternative to participation in discussion, and a preparation or practice experience that can be a bridge for students to participate.

Case studies. Students often are tremendously excited when given case studies from the I/O literature. The interest in the material typically carries them through the difficulties of digesting often technically sophisticated pieces from the practitioner literature -- indeed, case studies, often more than anything I can say directly, give students an invaluable appreciation of what psychological thinking and methods can uniquely contribute in social and industrial settings.

I have used case studies of how organizations have decided whether or not to use honesty and personality tests, and whether or not to use separate norms for different sociocultural groups; descriptive organizational behavior studies of firms ranging from a McDonald's with a mostly minority workforce, to the executive suite of a multinational, to a largely bureaucratic unit of one of the military services; and organizational development, diagnosis, and process consultation interventions. These case materials typically invite a kind of Socratic discussion, which can do much of the work of contextualizing new topics in the syllabus.

Observation. Psychological observation is perhaps one of our discipline's greatest contributions to the culture; it is a method that crosses subdisciplinary boundaries, and with deep philosophical moorings and ethical groundings. Developing an appreciation for the potential contributions, strengths and limitations of observational data is one of the most useful competencies undergraduate psychological study can give to students who do not go on to become psychologists.

Too often, however, undergraduates observe in settings too experience-distant or protected to give them a sense of the power of observation. I/O psychology, thus, can usefully invite students to observe work settings, in which virtually all undergraduate students will spend much of their post-college life; and even more, to observe observation in these settings. The class has thus made field trips to fast-food restaurants, a supermarket, and a government agency that "serves" the public (in

the latter, they developed a deep appreciation of the quotation marks); the trips have been organized around instructional topics including organizational behavior, needs assessment for organizational development, and even more "hard" topics such as ergonomics. It has been interesting to learn how infrequently students observe what goes on in these familiar settings, and thus how little they are used to thinking or reflecting about what goes on there. Once again, the development of generic capacities to observe, think and reflect bring I/O psychology back toward the central core of the liberal arts curriculum.

Role playing and enactments. Toward the middle of the semester, when students have acquired a sense of some of the basic parameters and methods of the field, and thus are more equipped to participate as actors in simulations of actual I/O psychological work, a series of extended role-playing exercises are used. One year, responding to a particular situation at one student's job, we used a scenario involving a group of Cambodian maintenance workers and their European-American supervisors in a county government agency to work on the topic of employee relations. Another time, again based on a student's work experience, we did an exercise where students "consulted" to a public relations unit of a naval command interested in revising its organizational chart. Other role plays have used the class process itself as organizing themes -- for instance, asking students to draw projective drawings of their actual and ideal class experiences and analyze these.

Role playing has made some contributions to the class process that I did not originally expect. It has often helped students reflect on the class process itself -- the roles that various actors play in it; what works and what does not; the tension between what people say they do and what actually happens -- and to appreciate the potential usefulness of such a process of organizational reflection. Many students -- those who choose actor-parts in role plays, and those who do not -- often come away from the exercises with a new appreciation of the value of active learning, and of the multiplicity of roles each of them can potentially assume; this, again, is a powerful learning of a core liberal arts value, but also an important way of teaching-by-example certain syllabus topics in training and organizational development. Not infrequently, students playfully make accusations that the role plays have "psychoanalyzed" them; this personal experience of psychological intervention at an organizational level can reinforce and transform students' understanding of I/O psychology topics.

Teaching Consultation Skills

An undergraduate I/O psychology course can be a particularly valuable experience for students in thinking about diversity issues. This takes on a particular coloration in my personal case, in that I am Latin American and most of my students are not. In a few groups, where it was my sense that students had the maturity and perspective for such an exercise, I have taught a lesson about consultation skills and issues by asking a group

of students to consult to me about the tensions I experience being a Latin American instructor in a majority-culture setting.

In one version of this exercise, five student "consultants" were chosen. Each was given a group of classmates to work with, to help them develop ideas and intervention strategies; and the group of consultants was offered the opportunity to meet, both apart from the class and in front of the class, to work on the issues involved in forging a consulting team. Then, in a class session, the consultants interviewed me about my experiences as a minority instructor, and after this had a discussion about interventions they might, in their consultant roles, suggest to me. After each of these discussions, the class as a whole discussed the process of the discussion, the content and technical issues raised, and the implications of these for their understanding of the process of consultation.

Perhaps the most interesting aspect of this exercise for me is that it can successfully model the psychologist's use of self as an assessment and intervention tool. Watching me in a consultee role, students gain a different perspective on self-disclosure, the relationship between inner experience and organizational life, role multiplicity, the particularities of culture as a psychological construct, and the relationship between culture and personal experience.

Conclusions

I have attempted to lay out here a vision of how introductory I/O psychology can develop an identity at the core

of a liberal arts curriculum; some ways that teaching in this area can be relevant to developing understanding of such cross-disciplinary themes as diversity and rapid sociopolitical change; and some strategies for using I/O psychology as a pathway facilitating the development of generic intellectual skills and an integrative understanding of psychology.

Part of my interest in describing this material has been to share an enjoyable teaching experience with colleagues, and to have an excuse for trying to reflect on and systematize my understanding of my own work. I would equally be interested in learning how this perspective agrees with or differs from other approaches being utilized, and hope we will have an opportunity to discuss these issues further in the course of this conference.

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What A Psychologist Learned by Teaching Writing:

Improving Technique and Assessment

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Paper Presentation

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Abstract

I relate the results of my recent experience teaching writing in a core course on communication. I present specific writing techniques and methods of assessment gleaned from this interdisciplinary venture, and recommend appropriate modifications for their use in psychology courses.

What A Psychologist Learned by Teaching Writing:

Improving Technique and Assessment

Writing can always be improved. As teachers and writers, we frequently exhort our students along this line, yet beyond the inevitable suggestions about the necessity of editing and proofreading, we are often not sure how to constructively address our concerns. We are all too aware of the problems in student writing; it's implementing solutions that escapes us. Fortunately, psychologists, like their colleagues in English, recognize this problem and are beginning to remedy it (e.g., Nodine, 1990).

Based on my recent experience teaching the interdisciplinary core curriculum writing course, Communication, I will discuss non-traditional writing techniques, including freewriting (Belanoff, Elbow, & Fontaine, 1991; Hinkle & Hinkle, 1990), small group work (Elbow & Belanoff, 1989a; 1989b), and peer tutoring (Levine, 1990). Beyond reviewing their use in Communication, I will suggest ways that non-traditional techniques can be modified for use within psychology courses.

As for the assessment of student writing, I will present methods used in the Communication course to monitor the progress and development of writing, again recommending how these methods might be appropriately applied in psychology courses. The methods of assessment include commentary on written assignments by more than one faculty evaluator, peer feedback, and optional versus mandatory rewriting.

Communication: An Introduction to Interdisciplinary Writing

The Communication course is an introduction to the writing process, and it is designed to help freshmen develop strategies for solving problems at each stage of their writing (e.g., topic development, outlining, revising, and editing). In doing so, the course provides beginning writers with instruction and practice in the basic elements of expository writing.

As an introduction to interdisciplinary writing, two features make Communication unique. First, the course is not meant to be taught exclusively by members of the College's English Department. Instead, the goal is to encourage participation by non-English faculty in order to emphasize the interdisciplinary nature of exposition; in other words, students must realize that good writing is not restricted to English faculty or courses (cf. Knoblauch & Brannon, 1983; Raimes, 1980).

A second feature that makes the Communication course unusual is its close alliance with another course in the core curriculum. (I discuss the specifics of the coordination of our core courses in some detail elsewhere [Dunn, 1992b; Dunn, in press].) Within this curriculum, material from one course is often studied in a concurrent course--this is the case with Communication and Macrocosm/Microcosm I (M/M I), our Western culture class. Across their first semester in college, students write four papers that are "shared" between the two courses. Each writing exercise not only helps students to develop skills germane to Communication, it also allows for the

cross-fertilization of ideas from the study of Western culture. For example, students might explore the murder of Thomas Becket in M/M I, then produce an essay in Communication that draws on the material from the companion course.

Writing Techniques

The writing techniques introduced in the Communication course necessitate having students write regularly. The method used to facilitate student writing both in and outside the classroom is freewriting, and it reappears in various forms across the course (see Elbow & Belanoff, 1989a, for a detailed review of its varied forms). Freewriting is a private, continuous form of writing where the writer puts whatever comes to mind down on paper (e.g., Elbow & Belanoff, 1989a). Students are instructed to write for approximately ten minutes without regard to spelling, grammar, or punctuation, allowing themselves a wide latitude to see what ideas develop and where they lead.

As a part of the writing classroom experience, freewriting provides that rarest of things--an "evaluation-free zone" (Elbow, 1993). Instead of writing what they think faculty are after, students have the opportunity to learn to write for themselves; freewriting is not graded, evaluated, or in any way compared against some criterion. Indeed, the instructor only reads freewriting samples students are comfortable sharing.

Familiarity with freewriting comes quickly to students. Because it is ungraded and there is no set format, they do quite well at it after a only a few

trials. A major benefit of freewriting is that students quickly generate pages of material, some of which can be rewritten or integrated into developing papers. Their writing, too, often becomes more interesting because it is less planned, more self-expressive, and they feel less pressure to censor themselves or to immediately produce a "perfect" essay (Elbow, 1993).

With relatively little experience, students can move onto focused freewriting, where they write non-stop for short periods on one particular topic. Focused freewriting is particularly useful when it comes time to produce an assigned essay. This form of freewriting is a painless way for students to start papers--they simply write about the selected topic both in and outside class, gradually producing pieces that can be fit together to form a paper.

Besides using freewriting to develop ideas for their papers, students also seek constructive feedback from their peers both in and out of class. During class, we frequently break students into groups of three, and slowly introduce them to the experience of reading their writing to others. The first few times, the emphasis is on learning to read and to listen. Each group member reads a section from his or her work twice through slowly while the other students listen intently, refraining from making comments.

The next step involves descriptive responding (Elbow & Belanoff, 1989b). In this technique, listeners simply summarize what they hear without making any evaluation of it. Writers benefit from feedback indicating their ideas are being heard the way they were written. Still later, group members

read essay drafts to produce descriptive outlines (Elbow & Belanoff, 1989b). The main point and function of each paragraph are highlighted, thereby providing the writer with a gauge of the text's effectiveness. Toward the second half of the semester, group members are encouraged to seek specific areas of criticism by writers, and, in turn, feel free to make unsolicited commentary on peer writing as well.

Outside the Communication class, students are encouraged to seek assistance with their writing from peer tutors at the College's Writing Center. Our writing tutors are trained upperclass students who successfully completed the Communication course or a freshmen writing class and are themselves good writers. Students schedule hour-long appointments with tutors in the Writing Center primarily for assistance with essay drafts, revisions, or rewrites, as well as grammar work. Core student comments are uniformly positive about the peer tutoring program, and it serves as an excellent ancillary component of the Communication course.

Assessing Writing

Assessment of writing usually means grading--or, in Peter Elbow's (1993) view, ranking--an often thankless, solitary task with which we are all too familiar. In our Core writing course, we have experimented with having each student paper read by two faculty--one who teaches writing and one who teaches in M/M I. Beyond gaining a second opinion, shared grading requires a clarification of course goals: Did the student utilize the appropriate writing techniques and, if so, how effectively? Did the writer adequately address the

topic by demonstrating an understanding of the course material? Both faculty, too, have the opportunity to weigh the merit of the arguments and ideas portrayed, and to comment on the overall quality of a given paper.

Faculty in each course strive to read papers "blind," that is, beyond reading valuative comments made in the margins of papers, they usually remain unaware of a colleague's suggested grade until meeting to make that decision. As a result, a discussion of the assignment's rationale and some negotiation about the final grade often takes place. Students benefit from receiving two sets of written evaluations on one paper--different readers like different things--and they know that their final grade on any exercise was arrived at by agreement or careful deliberation.

The small group aspect of the Communication course has interesting implications for assessment as well. Because students share most of what they write with the class as a whole--or at least a small group within it--they receive constant peer assessment of their writing. This sharing with their small group is an important form of non-valuative assessment, as the students become accustomed to involving people in discussing and editing writing. Our long-term goal, then, is not merely that they become used to critical, helpful comments in the present class, but that they actively seek peer feedback for their future writing.

Finally, the course policy on rewriting is an important assessment tool because it gives instructors some sense of how well their written comments were understood by the student. Revising their work familiarizes students with

an important part of the editorial process--an opportunity to integrate readers' suggestions into their writing. The policy is that students may rewrite a paper once if they are not satisfied with an assigned grade; however, any paper receiving a "D" grade or lower must automatically be revised and resubmitted by the student within a week's time. The same two faculty members who graded the first version of a paper also grade the revision (and provide written comments as appropriate). If the revision is successful, the student receives a higher grade; otherwise, the original grade stands.

Implications for Writing in Psychology

There are, I think, several lessons to be learned from these new forms of writing technique and assessment that can aid us in teaching psychology. Below I discuss how these strategies for improving writing and its assessment could be introduced into psychology courses.

Regarding Writing Technique

As a writing technique, freewriting has clear applications in psychology classes. Students often lament that they don't know what is "appropriate" for a research paper topic; that is, they confess they are trying to write a paper for the instructor instead of themselves. As previously discussed, freewriting is a relatively easy way to teach students to generate ideas for course papers that they are truly interested in doing. Beyond idea generation, I have also found that ten minutes of freewriting at the start of a class can be an effective way to promote discussion, particularly when the material is unfamiliar or technical (see also, Pennebaker, 1990a, pp. 194-195).

Freewriting has also been hailed as a means for students to integrate the copious amounts and often diverse content of course readings and lecture notes (Pennebaker, 1990a, 1990b). We want our students to think about the important implications of psychological theories and data, but if we do not provide a meaningful context for them to assimilate such detailed information, we are inadvertently undermining the learning process. One way out of this dilemma is to try freewriting as an educational strategy that allows students to explore psychological topics within the realm of their own personal experience (Pennebaker, 1990a, 1990b). If the topic is outside student experience, providing a brief overview and then simply asking them to write continuously for a short time on their deepest thoughts and feelings about it seems to be just as effective. Pennebaker (1990a) reports that such in-class freewriting led to a decline in absenteeism and an improvement on performance on essay examinations in several of his classes.

Naturally, freewriting or any other writing technique should not diminish the importance of teaching our students to write and think like psychologists, particularly where American Psychological Association (APA) style is concerned. It has been my observation, though, that there is often a tendency in much of our teaching to emphasize adherence to style over the merit of the psychological arguments presented in student essays (not surprisingly, this seems to happen quite frequently in those lower level classes where APA style is introduced). We need to promote reliance on format for clarity and consistency, but not if it means sacrificing interesting--even

entertaining--writing in psychology. After all, today's students will be tomorrow's professionals.

Sharing student writing in psychology classes is probably rare, if not nonexistent. As faculty, we are all probably guilty of maintaining the status quo by reading student papers ourselves, writing a few comments and a grade on them, and returning them from whence they came, never giving the students the benefit of peer opinion or the experience of reading their ideas out loud. Ironically, most of us not only share drafts of our works with our peers, we probably also discuss our research and teaching ideas in some detail with them as well.

We should give our students as many classroom experiences that mimic professional life as we can, and I argue that this is particularly true where an essential skill like writing is concerned (see Dunn & Toedter, 1991). It should be relatively easy to devote some time in introductory and intermediate level psychology classes to the sharing of paper or research ideas and subsequent peer commentary. Certainly, students enrolled in behavioral statistics and methodology courses can benefit from peer review to help them translate abstract concepts into more concrete, testable terms; thus, similar to beginning graduate students who rely on a mentor, they need not feel alone on their maiden research ventures. By the time these same undergraduate students enroll in advanced psychology classes, they will already have learned to be comfortable presenting and defending their ideas in front of others and to regard peer opinion as invaluable, not threatening. What may initially seem

like a sacrifice of course content time may repay instructors and students tenfold in terms of increased writing quality and confidence. Peer feedback, then, whether in relatively informal, in-class groups; in more formal revision sessions with a peer tutor (Levine, 1990); or in a campus writing center is a straightforward means to improve student writing as well as learning.

Regarding Writing Assessment

Assessment is something most psychologists probably feel they do quite well. After all, most would boast that they are well aware of the biases inherent in subjective rather than objective methods of assessment. When it comes to writing, though, due to its very nature, assessment is more subjective than most psychologists, and possibly even many writing faculty (Elbow, 1993), would prefer. The problem, I believe, lies more with the typical assessment strategy we use in our courses than the subjective nature of writing.

Most psychology professors still tend to favor holistic grading on writing assignments in lieu of detailed comments, possibly because they are not certain how to provide effective feedback (see Willingham, 1990, for recommendations about such feedback). That being said, my recent experience teaching writing has shown me the importance of providing comments about both content and style on student papers. Such comments should go beyond praise or criticism--it is not sufficient, for example, to simply note that a passage is well or poorly crafted; the grader must provide a rationale for a particular reaction, one that gives the writer some direction for

his or her future work. We are used to doing this when writing professional reviews for refereed journals, so why not take a similar stance for student papers? And most of us must admit that we have benefitted from such professional reviews ourselves, however painful some of the constructive comments may have been.

Team teaching, of course, may be a less frequent occurrence in many psychology curricula. Nonetheless, team-taught methods courses are by no means a rarity, and faculty who teach them may wish to consider the virtues of reading all the papers and then discussing each together, instead of relying on the usual division of labor. Although such a strategy may be more demanding at the start, the payoff will come later when the quality and depth of the writing improves.

I will not revisit the arguments concerning the utility of peer review, except to say that it is clearly a positive form of assessment for psychology courses. Encouraging students to share their ideas and to comment on the work of others in a workshop format can not only improve their critical faculties, these activities can also serve as a form of self-assessment through peer comparison. Actively listening and responding to the writing of others can be informative about one's own strengths and shortcomings.

Finally, I think it is time to revisit the issue of having students rewrite papers in psychology classes. Many of us may regularly require that papers receiving a failing grade be rewritten, but far fewer professors probably leave this option to any student who feels compelled to improve a "final" draft a

second time. Faculty time and workload are clearly at issue here, but these concerns may be offset by the fact that developing good editing and revising skills among student writers may improve their future work (and thus faculty grading efforts), not merely the essay at hand. For once, taking the long view regarding student writing may be an adaptive educational strategy.

Conclusions: What I Learned by Teaching Writing

Undergraduate students, whether in psychology or other disciplines, must learn that writing is not a mechanical end in itself but a process dependent upon related skills, such as effective speaking and listening. The writing techniques and assessment methods that I presented in this paper frame writing as an intellectual activity--a dominant, self-expressive form of communication--that must be "owned" by the student (Elbow & Belanoff, 1989). Teachers of psychology can benefit from treating writing "as a process that can be learned and for which strategies should be taught" (Nodine, 1990, p. 4). My interdisciplinary writing experience has suggested some applications for psychology which I hope aid in teaching writing techniques and their assessment. After all, writing can always be improved.

References

Belanoff, P., Elbow, P., & Fontaine, S. I. (Eds.). (1990). Nothing begins with n: New investigations of freewriting. Carbondale and Edwardsville, IL: Southern Illinois University Press.

Dunn, D. S. (in press). Integrating psychology into the interdisciplinary core curriculum. Teaching of Psychology.

Dunn, D. S. (1992a). Perspectives on human aggression: Writing to Einstein and Freud on "Why War?" Teaching of Psychology, 19, 112-114.

Dunn, D. S. (1992b, March). Freud, problem solving, ethnicity, and race: Integrating psychology into the interdisciplinary core curriculum. Paper presented at the 6th Annual Conference on Undergraduate Teaching of Psychology: Ideas and Innovations, Ellenville, NY.

Dunn, D. S., & Toedter, L. J. (1991). The collaborative honors project in psychology: Enhancing student and faculty development. Teaching of Psychology, 18, 178-180.

Elbow, P. (1993). Ranking, evaluating, and liking: Sorting out three forms of judgement. College English, 55, 187-206.

Elbow, P., & Belanoff, P. (1989a). A community of writers: A workshop course in writing. New York: McGraw-Hill.

Elbow, P., & Belanoff, P. (1989b). Sharing and responding. New York: Random House.

Hinkle, S., & Hinkle, A. (1990). An experimental comparison of the effects of focused freewriting and other study strategies on lecture comprehension. Teaching of Psychology, 17, 31-35.

Knoblauch, C. H., & Brannon, L. (1983). Writing as learning through the curriculum. College English, 45, 465-474.

Levine, J. R. (1990). Using a peer tutor to improve writing in a psychology class: One instructor's experience. Teaching of Psychology, 17, 57-58.

Nodine, B. F. (Ed.). (1990). Psychologists teach writing [Special issue]. Teaching of Psychology, 17 (1).

Pennebaker, J. W. (1990a). Opening up: The healing power of confiding in others. New York: William Morrow.

Pennebaker, J. W. (1990b). Self-expressive writing: Implications for health, education, and welfare. In P. Belanoff, P. Elbow, & S. I. Fontaine (Eds.), Nothing begins with n: New investigations of freewriting. Carbondale and Edwardsville, IL: Southern Illinois University.

Raimes, A. (1980). Writing and learning across the curriculum: The experience of a faculty seminar. College English, 41, 797-801.

Willingham, D. B. (1990). Effective feedback on written assignments. Teaching of Psychology, 17, 10-13.

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An Analysis of Traditional Classroom Assessment Techniques and a Discussion of Alternative Methods of Assessment

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An Analysis of Traditional Classroom Assessment Techniques and a Discussion of Alternative Methods of Assessment

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Contemporary classroom assessment, like assessment in general, has undergone substantial change in recent times. At least part of the reason for this change can be traced to an increasing call for accountability in the educational system. That is, to provide evidence to policy makers, administrators, and instructors that students are receiving a quality education (Moss, Beck, Ebbs, Matson, Muchmore, Steele, Taylor, and Hertson, 1992). In addition, test scores are often utilized as a major criterion in making educational decisions beyond evaluation of the student. As a result, test results, usually obtained from standardized tests, are used not only to assess student learning and progress, but also (frequently wrongly), to evaluate instructors, schools, and instructional methods, to name but a few. Finally, it has been repeatedly demonstrated that assessment influences both what students learn and

teachers teach (Crooks, 1988). While classroom tests are not subject to the same scrutiny as standardized tests, the changes being implemented in standardized testing programs can have an impact on how classroom assessments are developed and applied.

Students in primary as well as secondary school are typically exposed to two types of tests; standardized tests administered at one or more points in the academic year, and classroom tests designed to assess the learning of material taught during some time period. Unlike standardized tests, there is no 'traditional' test format for classroom tests, which are typically teacher-made tests. Such tests may contain multiple choice, constructed response and/or essay items (In addition to tests, classroom assessment may consist of quizzes, lab reports, and homework.) On the other hand, traditional standardized educational assessment has primarily relied on the multiple choice exam format. Multiple choice tests offer a number of desirable features; such tests are easy (and inexpensive) to administer and score, amenable to item analysis, and adaptable to a wide variety of subject matter domains. Some common critiques of such items are that they 1) encourage superficial learning of the material, 2) may be answered correctly by guessing, 3) are especially susceptible to coaching and test wiseness, and 4) do not lend themselves to assessing

all types of knowledge. In addition, such tests are costly to develop, and hence are not feasible for most classroom testing, with the exception being use of test batteries supplied with text books.

While these criticisms to multiple choice testing are most relevant to standardized testing, the resulting changes in standardized testing practices can have implications for classroom assessment, and lead to improved classroom assessment practices. Partly in response to the above mentioned criticisms of multiple choice tests, a number of modifications to existing large scale testing programs are planned. For example, the SAT will soon include constructed response questions, where test takers are required to supply the correct answer rather than select an answer from a series of alternatives. Another direction has been to utilize essay type examinations (which also includes short-answer type questions). While essay-type formats may allow for a more in-depth assessment of individual learning, they are also more time consuming and expensive to grade and more likely subject to rating bias. Yet another direction has been the development of large-scale, standardized performance assessments as complements to or replacements for standardized multiple choice exams. A criticism that has been levied at all assessment, but especially when tests are used for selection to school or for mastery testing, is

that teachers will frequently "teach to the test", and hence focus their efforts on those topics likely to be tested. This is a potential limit of all large-scale standardized testing programs, regardless of the specific item types utilized.

Most notably within the areas of personnel selection and personality assessment, there has been increasing awareness that assessment using multiple measures yields a better overall picture of an individual's strengths and abilities than reliance on a single test (Cascio, 1982). This awareness has also been the catalyst for the current use of standardized performance assessments, as well as portfolio assessment, in the schools. The awareness that multiple measures using diverse assessment devices can facilitate a higher quality assessment of the individual has provided some of the impetus for the changes currently being seen in large scale testing programs that were discussed above. While traditional assessment methods such as those mentioned above have and will continue to have their place in the educational system, there are a number of alternative assessment procedures that can foster both greater learning in the test taker as well as more complete measurement for the instructor.

The remainder of the paper will discuss three alternative assessment methods that have been

successfully utilized in upper-level psychology courses. Each of these can be easily used in conjunction with traditional classroom assessment methods. First, a discussion of the use of oral examinations to assess students knowledge of the central nervous system will be presented. This will be followed by a description of the use of response journals. Finally, the use of small-group presentations will be presented.

Students in the first author's Physiological Psychology class perform a two week laboratory on the neuroatomy of the sheep brain. This exercise familiarizes the student with the terminology of neuroanatomy and with the general external and internal features of the brain (see Wellman, 1986). During the lab sessions the students spend their time studying and dissecting the brain. One can view the brain from several angles (i.e., dorsal view, the top surface of the brain). Students are given a list of structures that can be observed and studied from each angle. Once a structure is identified its basic function is discussed. Because learning the structure-function relationships of various brain sites can be a rather tedious task, using the sheep brain as a guide helps to maintain interest and excite the students.

Once the lab has been completed, an oral exam is administered to the students. During the exam the

students are required to 1) identify various structures on the sheep brain and 2) discuss the function(s) of the structures. Oral exams have been criticized for being both less objective than written exams and very time-consuming to administer (Ebel & Frisbie, 1986). Our experiences have led us to believe these criticisms can be overcome. One way an instructor can attempt to make the exam objective is by having a list of the essential responses for each item, which facilitates grading the answers as the students progress through the exam. This allows the instructor to give the student immediate feedback. While these exams do take a tremendous amount of time to administer, we believe there are several advantages to using oral exams in this manner, which makes it worth both the instructor's time as well as the time of the students. First, it tests the students with the stimuli that were there when they learned the material. Oral exams also permit flexibility. That is, students can be asked to expand, clarify and justify their responses. Finally, students are required to express themselves orally rather than in the traditional written format. It has also been suggested that oral exams are likely to produce stress in students. Our students initially report feeling nervous about the idea of oral exams. However, we continue to find our students regarding this format as an enjoyable experience, after the fact. The students

are often amazed at how well they do relative to how they expected to do.

The students in the first author's Psychology of Women course are required to keep a response journal. The journal contains the students responses to the weekly reading assignments. The students are told that the entries are not to be polished essays but rather their spontaneous thoughts, questions and reactions to the course content. Students are instructed to consider the following questions: do you agree/disagree with the author's view and why; are you surprised and why; does the material contradict other material you have read; are you delighted or disgusted by what you've read and why? Occasionally the instructor will provide the students with a journal question to help focus their responses to the readings in a particular way. The students are required to make an extensive entry in the journal at least once a week, with interim notes on the readings as they are completed. The journals are collected and graded three times during the course of the semester. Students are notified that their journals are due for evaluation at least one week prior to the due date. The journals are evaluated and written feedback is provided along with the grade of either check minus, check, or check plus. A check minus is given for a journal that is incomplete and suggests that insufficient time was spent on the

assignment. A check means that the journal demonstrates a satisfactory effort. The check plus represents a journal that is insightful and thoroughly done.

A course like the Psychology of Women seems to elicit an array of feelings in students that other courses do not. Students generally care and have opinions about the research findings in this area. For example, the research findings regarding gender differences in cognitive abilities will have a greater emotional impact upon students than will research comparing the differences between operant and respondent conditioning. The Psychology of Women course can also bring up feelings of anger and resentment in students as they discover and become aware of instances of sexism and oppression. The journal is a wonderful outlet for these types of feelings. It allows the students to voice concerns and thoughts they may feel uncomfortable and reluctant to share in the classroom setting. In addition, journal assignment encourages the students to look for connections between their personal experience and the theoretical and historical concerns addressed in the readings and in class. We have found that the journal assignment better prepares the students for class discussions. It forces students to interact with class material on a regular basis and helps them to clarify

difficult concepts. Overall, we have found that this nontraditional form of assessment adds a new dimension to the course.

An additional course requirement for the Psychology of Women class involves a group project. The class is divided into several groups ranging in size from 3-5 students. A topic related to the Psychology of Women is selected by the class (i.e., abortion). Each group is then responsible for researching the selected topic from a different perspective (i.e., biological, psychological, sociological, legal, feminist, etc.). Dividing up the class in this manner allows for each group to compete an exhaustive review of their portion of the topic. At the conclusion of the research, each group must prepare a 20 minute oral presentation, with each student in the group participating. In addition to the presentation, a 5-7 page group paper on their topic is required. The group papers are combined to provide the students with a comprehensive review of the research and literature on the topic. The final paper is copied and distributed to all students. The content of the paper also forms the basis for test material for the final exam.

In order to avoid the problem of having some students do more of the work than others, the instructor should have the students develop and design

a group contract. The contract specifies the responsibilities of each group member. The contracts are signed twice; once when they are written and then again when they are finished with the project. The students sign the second time to insure that each member of the group fulfilled their responsibilities. The group gets one grade for the paper. Each member of the group also gets two grades for the presentation; a group grade and an individual grade.

One of the main objectives of the project is to expose students to an interdisciplinary approach to a topic. In addition, it requires the students to participate in cooperative problem-solving and to develop teamwork skills. The exercise also helps to further develop library research skills.

These alternative methods are best considered as complementing rather than replacing more traditional test and assessment formats. Teachers can foster better learning in their students, not by simply replacing their classroom tests with exercises such as the alternatives discussed above, but rather by integrating the two. By doing so, teachers are availing themselves of the improvements in assessment technology that have occurred over the last decade without surrendering traditional classroom assessments that clearly still have their place in the classroom for measruring certain types of learning.

References

Cascio, W. F. (1982). Applied Psychology in Personnel Management. Reston, VA: Reston Publishing Co., Inc.

Crooks, T. J. (1988). The impact of classroom evaluation practices on students. Review of Educational Research. 85, 438-481.

Ebel, R. L., & Frisbie, D. A. (1986). Essentials of Education Measurement. Prentice-Hall, Englewood Cliffs, NJ: 4th Edition

Moss, P.A., Beck, J. S., Ebbs, C., Matson, B., Muchmore, J., Steele, D., Taylor, D., & Herter, R. (1992). Portfolios, accountability, and interpretive approach to validity. Educational Measurement: Issues and Practice. 11, 12-21.

Wellman, P. J. (1986). Laboratory Exercises in Physiological Psychology. Allyn and Bacon, Inc.

A VALUE ORIENTED APPROACH TO EVALUATING PSYCHOLOGY PROGRAMS

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A VALUES ORIENTED APPROACH TO EVALUATING PSYCHOLOGY PROGRAMS

In our classrooms, we ask the question, "How can we improve student learning?" Classroom assessment focuses on what students are learning and how well they are learning it. These two crucial questions might well be preceded by two other equally important questions. First, what are the values that are being promoted by the program and secondly, how do these values fit in with the values of the larger systems (i.e. the field of psychology and the particular school) that it is a part of.

This proposal will explore some of the ways that we can evaluate some of the criteria upon which judgments of a programs' merits can be made. It puts into context the questions of "what are they learning and how well are they learning it?" It does so by asking "is this what we want them to learn; does this help the student advance in a direction that will assist them in becoming the type of student, professional and citizen that will promote the well being of the institutions and social systems of which they are a member?

This method of conceptualizing classroom assessment expands the concept of evaluation to include not only any discrepancy between the learning objectives and what is actually learned, but also allows us to examine whether these learning objectives meet the criteria by which the program is to be judged. For example, does it allow for the personal growth of the student, in terms of encouraging the development of a value system that includes such things personal responsibility, a personal moral code and respect for the individual? Does it encourage a rigorous examination of

one's own intrapersonal issues that would effect the individuals' performance in both personal or professional settings? Obviously, not every course would emphasize each of the various goals to an equal extent. (A course in statistics would emphasize different value laden criteria than would a course in individual counseling.) But this presentation will suggest that there are value based criteria that must run through a psychology program (whether it be an undergraduate or a graduate program) in order that the program can effectively promote the humanistic values that are at the core of our profession. Furthermore, it is a legitimate goal of an assessment and evaluation inquiry to formulate these goals and illuminate the extent to which they have been met.

Attitudes and Achievement in Introductory Psychological Statistics Classes: Traditional versus Computer Supported Instruction

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Attitudes and Achievement in Introductory Psychological Statistics Classes: Traditional versus Computer Supported Instruction

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The impact of computer supported data analysis in an introductory statistics course was examined. In particular, the attitudes and achievement of students who used a computer to analyze data were compared to those who performed analyses via traditional calculator supported techniques. In addition, the extent to which a locally developed manual facilitated students' independent use of SPSS/PC was explored.

The role of computers in college level psychology instruction has been assessed via several surveys (Castellan, 1982; Butler & Kring, 1984; Stoloff & Couch, 1987). Across surveys, approximately 50 percent of the faculty respondents indicated they use computers in their instructional program. Although a trend in computer usage across time is not evident in these data, survey results indicate that among undergraduate course offerings, statistics is the most often cited course in which computers are used.

Research exists to dispel the myth that hand calculations benefit students' achievement in statistics courses. Layne & Huck (1981) failed to find support for the benefits of computations in helping students learn to interpret data. In other research, results indicate that students tend to report that extensive hand calculations interfered with their retention of what was learned as well as the learning of new material (Tromater, 1985). Research directly comparing the achievement of students who used computers to those who used calculators failed to find a significant difference (Ware & Chastain, 1989). In contrast to these results, however, a series of studies using computers in math instruction in which computers were found to facilitate increased student

achievement when compared to calculator supported instruction (Kulik, Bangert & Williams, 1983; Kulik & Kulik, 1989; Friedman, Jurkat & Pinkham, 1991). Differences in results between computer usage studies in statistics and math courses may be attributable to several factors. First there may be inherent differences in the disciplines which mitigate the extent to which computers may be of support. Second, more in line with Rogers' (1987) experience, it may be more difficult to identify a common set of items for computer and calculator supported statistics courses as compared to that of mathematics.

Despite limited empirical evidence to suggest that computers will increase achievement, Butler and Kring (1984) found that 75 percent of the psychology faculty surveyed believed student learning would be facilitated if computers were used to a greater extent in statistics classes. This may be the result of faculty perceptions that computers have become a necessity in psychological research. These perceptions may to some extent explain Butler and Kring's (1984) other finding that more faculty embraced the notion of computer supported statistics instruction than actually use computers as part of their statistics courses. Facility in computer methodology may partially explain the difference between faculty interest and faculty use.

Psychology faculty indicated the most likely mediator of future increases in computer usage would be the development of software; the area faculty believed most suitable for instructional computing development was statistics (Castellan, 1982). This result was surprising given the availability of powerful statistical packages such as SPSS but may be related to Castellan's (1982) finding that department chairs identified lack of faculty training to be the most often cited constraint on computer use. To address this limitation, statistical packages such as Elzey (1985) have been developed. Elzey requires little expertise to master and falls into the category defined by Butler and Eamon (1985) as useful for students in lab courses or faculty interested in analyzing small

size samples. Rogers (1987) used Elzey in his introductory statistics course and concluded "despite the difficulties caused by the programs' bugs and the textbook failings, using the package helped to create a good teaching situation" (p.111). Mainstays of social science research such as SPSS remain the preferred statistical package for data analysis. Recent survey results indicate SPSS to be the most frequently used statistical software package (Stoloff & Couch, 1987).

The current study sought to establish a mechanism by which the more popular software (SPSS) could be used in statistics courses in such a way that no prior computer expertise would be needed on the part of the faculty or students. In particular, the extent to which SPSS/PC could be made accessible to students having had no prior computer or statistics background was examined. Central to the course was the development of a manual which provided detailed, step by step instructions for creating a database using dBase, uploading the file into SPSS and then using SPSS/PC to compute statistics typical of an introductory statistics course. To examine the efficacy of this mode of instruction, achievement and attitudes were compared between a sample of students whose statistics course relied on calculators to those who used the manual to compute the necessary indices via SPSS/PC.

Method

Subjects and Setting

The current study was conducted at a large northeast state supported college which typically enrolls more than 10,000 students. Most students are among the first members of their families to attend college; approximately two thirds of the students study on a full time basis. The student body is racially and ethnically diverse with approximately 25 percent of the students African American and Hispanic. There are 330 resident faculty who reflect the diversity of the student body. The college offers a wide range of undergraduate majors.

The psychology department is located within the school of liberal arts. In addition to providing service courses for other departments, during the Fall 1992 semester, the psychology department enrolled 660 undergraduate majors; of these, approximately 42 percent jointly pursued majors in education. The department also offers several Master's Degree program enrolling 141 students during the Fall of 1992.

Subjects were 27 students enrolled in the computer supported statistics class (COMP) and 28 students enrolled in a traditional, calculator supported class (TRAD). Given the nature of the study, it was not possible to randomly assign subjects to conditions. Although the use of intact groups limits the internal validity of the study, as can be seen in Table 1, no significant differences were found between COMP and TRAD groups on several pre participation academic measures. In addition, as can be seen in Table 2, the relationship between class (TRAD and COMP) and academic major was not significant (Chi Square(2)=.12, p=.939).

Table 1
Academic Background of Subjects

Prior to Participation Measure	Mean TRAD	Mean COMP	t	p
Credits Completed	70.4	69.3	.28	.787
Number of Psychology Courses Taken	3.1	3.3	.35	.731
GPA in Psychology Courses Taken	8.9	8.6	.47	.638

Table 2
Academic Major of Participants

Academic Major	TRAD Number (%)	COMP Number (%)
Psychology Only	9 (32)	9 (33)
Psychology and Education	15 (54)	15 (56)
Other	4 (14)	3 (11)
Total	28	27

Materials

Central to this study was the development of a manual to facilitate students' independent access and use of dBase and SPSS/PC in an open laboratory environment. To measure participants' statistics achievement, a common item set was developed. In addition, several attitude measures were employed.

SPSS/PC Manual. Although SPSS/PC is menu driven, it is difficult to use. It is the authors' view that navigation through the SPSS/PC menu maze is inhibited by menu choices posted by acronyms or embedded within levels of choices difficult to delineate. To address these concerns, the manual was divided into chapters corresponding to each introductory statistics topic (e.g. Central Tendency) as well as several chapters guiding students through creating a data file for analysis. In addition, the manual presents explicit directions as to how to create a sample data set.

Within each chapter, the manual presented the menu options the student would see at each step, configured in a manner parallel to that seen on the screen. Also highlighted on each menu was the menu choice to be selected next. Directions specified the exact keys the student was to press to select the appropriate menu

choice. After each action, the manual presented what would appear on the screen subsequent to selecting each menu choice. After the final command to compute the desired statistic, the manual presented the output the student would see when the sample data set was used. The manual also labeled and defined each statistic printed.

Statistics Achievement. Over the course of the semester, students' statistics skills were measured by three tests. Each test contained both multiple choice and open ended questions. Typical of the open ended questions on the third test were problems requiring the student to determine the appropriate statistic, state the hypotheses, compute the value of the statistic and draw conclusions, For the purpose of this study, each test and item type contained a common core of items developed by the instructors of the TRAD and COMP sections. Across three tests, the common core yielded three scores including total multiple choice, total open ended and total number of statistical values computed correctly (a subsection of the open ended items).

Attitudes. Two attitude measures were used. The first was an adoption of the Semantic Differential's (SD) evaluative factor (Osgood, Suci & Tannenbaum, 1957). That is, similar to Ware and Chastain (1989), four bipolar items (good-bad, cruel-kind, clean-dirty, and beautiful-ugly) were posted with stimulus words Statistics and Computers. Expanding on Ware and Chastain (1989), the dimension of "valuable-worthless" was added; in addition, students were not only asked to rate Statistics and Computers but Mathematics and Psychology. Each item was scored from one to seven where seven indicated the more positive attitude. The four bipolar items used by Ware and Chastain (1989) were summed to generate a general attitude score (GEN). Information on the valuable-worthless item was dealt with separately as an indicator of subjects' perception as to the usefulness of statistics (USEFUL).

The second measure was the Attitude Toward Statistics scale (ATS) (Wise, 1985). The ATS contains 29 Likert type items which yield total and two subscale scores (field and course). The Coefficient Alpha reliability estimate of the ATS was .91; the concurrent validity coefficient linking the ATS with the Statistics Attitude Scale was .88 (Roberts and Reese, 1987).

Computer Laboratory. COMP classes were held in a computer laboratory which contained 16 IBM personal computers. Residing on the hard drive of each computer was SPSS/PC and dBase III+, among other programs. Each computer had one 3.5 floppy disk drive.

Procedure

Colleagues of the instructors administered the SD survey during the first and last day of the semester to both TRAD and COMP course students. Both classes received standard statistics instruction in lecture and discussion format. When specific statistics were to be calculated, TRAD students relied on hand calculators while COMP students relied on the computer. When computing a statistic, COMP students were instructed to proceed at their own pace and independently use the computer and manual. The instructor's primary role at this time was to answer students' questions. Students took each of the three achievement tests during a regularly scheduled class. During testing, TRAD students had calculators available while COMP students had computers available. During the last scheduled class, a colleague administered the SD and ATS surveys.

Results

Attitude and achievement data were compared via a series of t tests and analysis of variance. Although the study design lacked randomization, as already described, descriptive data failed to yield a significant difference between classes at the start of the

study. This, in concert with concern as to the identification of a suitable covariate (Campbell and Stanley, 1966), it was decided not to use analysis of covariance. Results are presented separately for achievement and attitude data.

Achievement

As can be seen in Table 1, t-test results failed to indicate a significant difference in multiple choice scores between TRAD and COMP classes. This is unlike the t-test results for the open ended questions which approached significance ($p \leq .10$). Overall, for open ended questions, the TRAD class outperformed the COMP class. Conversely, the COMP class was more likely to correctly compute the desired statistic than their TRAD class counterparts.

Table 3
Mean Achievement: TRAD vs. COMP

	TRAD		COMP			
Item Type	Mean	S.D.	Mean	S.D.	t	p
Mult Choice	11.8	2.7	11.7	2.8	+0.2	.86
Open Ended	21.3	4.3	18.9	5.5	+1.8	.08
Stat Value	4.3	1.3	5.0	1.2	-1.9	.07

Attitude

Presented in Table 4 are the mean ATS Total, Field and Course scores for TRAD and COMP classes as well as the corresponding t values. Review of these data indicate that no significant difference was found between classes on measures of attitudes toward statistics, the discipline and the course.

Table 4
Mean TRAD and COMP ATS Total, Field and Course Scores

	TRAD		COMP			
Measure	Mean	S.D.	Mean	S.D.	t	p
Total ATS	100.2	16.4	100.7	13.9	-0.1	.90
ATS Field	70.5	11.3	72.4	8.9	-0.7	.48
ATS Course	29.7	7.4	28.3	6.9	+0.7	.47

Table 5 presents mean pre and post GEN SD scores while Table 6 presents the results of a three way mixed analysis of variance on these data. As can be seen in Table 6, significant main effects were obtained for Time (pre/post) and GEN SD Attitude (statistics, math, computers and psychology) in addition to a significant interaction between Time and GEN SD Attitude. Tukey pair-wise comparisons of the significant interaction, indicate mean statistics scores increased over Time. In addition, at pretest, mean statistics ratings were significantly lower than either computer or psychology ratings; math ratings at pretest were lower than psychology. At post test, no significant difference was found between attitudes.

Table 5
Pre and Post Mean SD Attitudes for TRAD and COMP classes

	TRAD		COMP	
Attitude	Pre	Post	Pre	Post
Statistics	15.5	19.4	16.4	19.7
Math	18.5	20.1	17.2	20.1
Computers	19.9	20.9	20.9	23.3
Psychology	23.3	23.2	22.1	23.7

Table 6
Analysis of Variance: Class by Time by SD Attitudes

Source	df	Sum of Squares	Mean Square	F	p
Between					
Class	1	7.91	7.91	0.13	.72
Error/Bet	44	2673.33	60.76		
Within					
Time	1	404.88	404.88	18.67	.00
Class x Time	1	21.67	21.67	1.00	.32
Error	44	954.20	21.69		
Attitude	3	1499.88	499.96	22.41	.00
Class x Att.	3	65.01	21.67	0.97	.41
Error	132	2944.86	22.31		
Time x Att.	3	98.92	32.97	3.40	.02
Cl x Ti x Att,	3	20.07	6.69	0.69	.56
Error	132	1281.26	9.71		

Table 7 presents the mean value ratings for TRAD and COMP class pre and post instruction. Similar to the SD Attitude data reported above, a three way mixed analysis of variance was computed. As can be seen in Table 8, the only significant effect obtained was a main effect for Value. Tukey pair-wise comparisons indicate that statistics value ratings were significantly lower than all remaining values. The difference between math and computer mean value ratings were also significant.

Table 7
Pre and Post Mean SD Value Attitudes for TRAD and COMP classes

	TRAD		COMP	
SD Value	Pre	Post	Pre	Post
Statistics	5.3	5.4	5.4	5.5
Math	6.1	5.9	5.8	6.3
Computers	6.4	6.6	6.3	6.7
Psychology	6.2	6.4	6.4	6.4

Table 8
Analysis of Variance: Class by Time by Value

Source	df	Sum of Squares	Mean Square	F	p
Between					
Class	1	0.16	0.16	0.04	.85
Error/Bet	44	202.75	4.51		
Within					
Time	1	1.94	1.94	1.42	.24
Class x Time	1	0.62	0.62	0.46	.50
Error	45	61.31	1.36		
Value	3	64.18	21.39	13.74	.00
Class x Val.	3	0.28	0.09	0.06	.98
Error	135	210.17	1.56		
Time x Val.	3	1.11	0.37	0.57	.64
Cl x Ti x Val.	3	2.00	0.67	1.03	.38
Error	135	87.51	0.65		

Discussion

A clear pattern in achievement between TRAD and COMP classes is not evident; TRAD students tended to outperform COMP students on open ended items while COMP students tended to outperform TRAD students in computing the correct statistical value. Although attitude data failed to indicate a difference between classes, positive attitudes toward statistics increased over the course of the semester across classes. The lack of a clear trend in the data between TRAD and COMP classes, may, to some extent, be interpreted as support for the efficacy of the manual in supporting students' data analyses. That is, COMP students were able to effectively and independently use relatively sophisticated statistical software.

Several factors may have limited our ability to find a clear trend in achievement data. One explanation is that there is no difference in achievement outcome between computer and calculator supported statistics instruction. Although given prior research (Layne and Huck, 1981; Ware and Chastain, 1989), this explanation is plausible, it does not limit either the interest or support for computer supported statistics instruction. As reported by Butler

and Kring (1984), faculty interest in expanding the role of computers in instruction is strong. Computer assisted introductory statistics instruction adds to the parsimony between introductory statistics and advanced statistics and research courses as well as thesis work.

A second explanation for the limited achievement results concerns the difficulty incurred when trying to develop a common core of items. Roger's (1987) believed that differences between computer and traditional statistics classes were so large that it was not possible to compare students' performance across instructional modes. In the development of a common item set, instructors agreed that in order to be included, a question must pertain to material covered in both classes; in so doing, students in either class could be reasonably expected to correctly answer the item. This important constraint made it difficulty to select common core items. The use of the computer may, for example, permit students to acquire more in-depth understanding of particular concepts. Questions to document this, however, would not meet the criteria, and were not included. Although a common item set was developed for the current study, the instructors had difficulty in reaching agreement, and question the extent to which the core items represent the content and breadth of either class. This limitation is inherent in studies of this sort in which instructional modes are compared. Efforts to articulate the objectives and anticipated outcomes of introductory statistics classes may help to increase the content validity of tests used in future research.

Despite limited quantitative findings to support the superiority of computer based statistics instruction, COMP class students were able to effectively use powerful computer software. At various junctures in the semester, students expressed pride in their computer skills and appreciation for the computer resources available. This is particularly noteworthy in that it has been our experience that even the computer literate researcher at times has had difficulty using SPSS. Although many easier programs have

been developed for elementary statistical calculations (Rogers, 1987), student experiences within the current study indicate that ancillary materials can be developed to allow students to use the same software as professionals working in the discipline. Future studies should seek to refine qualitative measures to include information concerning such dimensions as students perceptions of their own computer literacy.

In summary, the data did not yield differences in attitude or achievement between COMP and TRAD classes. Although the superiority of computers in engendering positive attitudes or higher level skills is not supported, no evidence to suggest that computers detract from introductory statistics instruction was observed. In this manner, the old adage which suggests that hand or calculator supported statistical calculations is a valuable component in introductory statistics classes was not supported. Although future research should continue to develop more sensitive measurement of the variables of interest, the current study provides support for the ability of introductory students to use discipline based computer software. It is our belief that increasing students contact with these resources has the potential to help students in future research activities and job search activities.

References

Butler D.L. & Eamon, D.B. (1985). An evaluation of statistical software for research and instruction. Behavior Research Methods, Instruments & Computers, 17, 352-358.

Butler D.L. & Kring, A.M (1984). Survey on present and potential instructional use of computers in psychology. Behavior Research Methods, Instruments & Computers, 16, 180-182.

Castellan, N. J. (1982). Computers in psychology: a survey of instructional applications. Behavior Research Methods, Instruments & Computers, 14, 198-202.

Campbell, D.T. & Stanley, J.C. (1966). Experimental and quasi-experimental designs for research. Chicago, Ill.:Rand Wi.

Elzey, F.E. (1985). Introductory statistics: A microcomputer approach. Monterey, CA:Brooks/Cole.

Friedman, E. A., Jurkat, M. P. & Pinkham, R.S. (1991). Enhancing mathematics education through computer integration. Technical Horizons in Education, 19, 72-75.

Kulik, J. A., R. L. Bangert & G. W. Williams (1983) Effects of computer-based teaching on secondary school students. Journal of Educational Psychology, 75.

Kulik, J.A. & Kulik, C.C. (1989). Effectiveness of computer-based teaching on secondary school students. School Library Media Quarterly, 17.

Layne, B. H., & Huck, S. W. (1981). The usefulness of computational examples in statistics courses. The Journal of General Psychology, 104, 283-285.

Osgood, C.E., Suci, G.J., & Tannenbaum, P.H. (1957). The measurement of meaning. Urbana, Il: University of Illinois Press.

Rogers, R. L. (1987). A microcomputer-based statistics course with individualized assignments. Teaching of Psychology, 14, 109-111.

Roberts, D.M. & Reese, C.M. (1987). A comparison of two scales measuring attitudes towards statistics. Educational and Psychological Measurement, 47, 759-764.

Stoloff M. L., & Couch, J. V. (1987). A survey of computer use by undergraduate psychology departments in Virginia. Teaching of Psychology, 14, 92-94.

Tromater, L. J. (1985) Teaching a course in computer-assisted statistical analysis. Teaching of Psychology, 12, 225-226.

Ware, M. E., & Chastain, J. D. (1989). Computer-assisted statistical analysis: A teaching innovation. Teaching of Psychology, 16, 222-227.

Wise, S.L. (1985). The development and validation of a scale measuring attitudes toward statistics. Educational and Psychological Measurement, 45, 401-405.

Cooperative Testing in Introductory Level Psychology Courses

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Cooperative learning activities in the classroom have become a well-established component of teaching methodology since their popularization by Johnson and Johnson (1975). Working in groups for discussion purposes in the classroom as well as on group projects outside of the classroom has spread from the elementary school where it began as a way to enhance the learning process to the business school where it is seen as a way to prepare students for the cooperation which will be needed when they enter the work force. The widespread praise for the Japanese management style has provided one impetus for this shift in educational strategy.

When conceptualizing the cooperative learning situation, Johnson, Maruyana, Johnson, Nelson and Skon (1981) identify three different goal structures in learning situations: cooperative, in which individual rewards are proportional to the groups work; competitive, in which the individual's rewards are inversely proportional to the groups; and individual, in which the reward is for the quality of the individual's work regardless of others' performance. In their meta analysis of the effectiveness of these disparate goal structures on achievement and productivity,
Johnson et al. (1981) found that cooperation is more

effective than interpersonal competition or individualistic effort. In addition to improved performance, a cooperative approach appears to produce more positive attitudes toward the instructional activity and more positive interpersonal relationships while reducing anxiety.

The application of the cooperative learning paradigm to the classroom testing situation has received little attention in the cooperative learning literature (Slavin, 1983). There is a strong bias in our educational system toward individual accountability as our concerns with cheating demonstrate. In spite of their lack of perfection, tests are still seen as a valid measure of the unobservable construct of "knowledge". Whose knowledge would be measured if students worked together on a test?

This legitimate concern is counterbalanced by the notion that the test itself is part of the learning process (Nance and Nance, 1991). Feedback received on their test performance can presumably help students correct erroneous ideas and faulty reasoning processes. Working cooperatively on the test itself would offer the same advantages. The risk, of course, is that "social loafing" would occur with some students taking advantage

of the others.

Perhaps because of this ambivalence about cooperative testing, only one actual classroom study of cooperative testing was discovered. Farland and Gullickson (1984) studied the use of cooperative testing on course quizzes for seniors in a measurement course. Although students liked cooperative testing and thought it enhanced their performance, there was no consistent advantage for the cooperative testing group on six quizzes which were administered in a group situation nor on two exams administered individually when compared with a group which received both individual quizzes and individual tests.

This finding contrasts with those of studies such as that by Lambiotte, Dansereau, Rocklin, Fletcher, Hythecker, Larson and O'Donnell (1987) who tried to understand the reasons why groups may perform better than individuals beyond the mere pooling of information. They suggested that students have difficulty monitoring their own cognitive activity and designed a learning situation in which partners were encouraged to make their metacognitive activity in the study process explicit. The subjects also worked cooperatively on a test of the material studied again after having been given a

test-taking strategy which incorporated mutual monitoring of cognitive activity (eg. searching memory, checking for errors, organizing information, etc.). They found that cooperative study training increased accuracy of performance and that cooperative testing increased response fluency when compared with students studying and testing individually. However, the benefits appeared to be situation specific as cooperatively trained students actually performed more poorly on subsequent individual testing than did those who had been working individually all along. In spite of the disappointing lack of transfer, Lambiotte et al. (1987) suggest that their test taking training helped focus students on task relevant interactions which were likely to enhance performance.

Dimant and Bearison (1991) using a Piagetian model have also suggested that the facilitating effect of peer interactions on cognitive performance depends on the nature of the interactions which take place. Mere exchange of information will have little permanent effect. They suggest that the interactions must involve disagreements, questions and explanations as well as agreements for improved performance to occur. Extraneous comments related to social interaction rather than task performance are ineffective in enhancing quality of

performance.

The contradiction between the positive findings for cooperation in experimental situations and Farland and Gullickson's (1984) mixed results in an actual classroom setting may be related to the uncontrolled nature of the interactions in a natural setting. However, Farland and Gullickson also used a very short task which may not have provided a reliable measure of the potential effects of cooperation. In addition, these brief (5-item) quizzes administered in relatively large group (4-5 persons) may not have generated the same stress as typical 50 to 100 item classroom exams do. The present study used a more typical classroom exam format with 50 item tests. It was expected in the present study that the effect of cooperative testing would be more powerful because of the greater stress associated with longer, more heavily weighted exams. Thus it was hypothesized that the students would do better on cooperative tests than on individual tests and show less anxiety.

Method

Subjects

Forty undergraduate students in two sections of Developmental psychology served as subjects. In addition, a third section of students taking Developmental Psychology with traditional testing methods was used for comparison purposes. Ages of the students varied with one section having mostly traditional age students and the other mostly older students.

Materials

Four multiple choice tests containing 50 items were administered to each group. Between 34 and 43 questions were chosen from the test bank supplied with the text book (Berger, 1988). Of these, the percentage of factual questions ranged from 44 to 81 and were about equally divided between easy and moderate difficulty items.

Each student had her own answer sheet which also contained items asking the students to rate their anxiety and expected performance on a 5-point scale. In addition they were asked which type of testing they preferred. Finally the time to completion was noted when they turned in their exam.

Procedure

Several days prior to the first cooperative exam, the procedure was explained to the students. They were told that they could pick a partner for the next exam but that they would each turn in their own answer sheets. They were allowed to change partners for the second cooperative testing and were not required to participate. Seven of 34 (20%) chose not to participate in one section and 9 of 24 (35%) in the second section did not participate. The mean test sccres of these students did not differ significantly from the means of the subjects when taking individual tests.

The order of the treatments was counterbalanced in the following way:

	Test			
	First	Second	Third	Fourth
Group				
A	C	I	C	I
B	I	C	I	C

Results

When the effect of cooperative testing is compared to individual testing in the two experimental groups, cooperative testing appears to provide a clear advantage, $F(1, 117) = 34.1$, $p < .01$. However, when reviewing the

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Insert Table 1 about here

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data, it appeared that the two groups showed very different responses to cooperative testing. Therefore, an analysis was done to see if the patterns of test scores in the two groups varied from each other. As Figure 1 reveals, while the overall shape of the curves in the two groups is similar, the magnitude of cooperative testing effect is significantly different, $F(3, 114) = 16.2$, $p < .01$). Group A which started off

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Insert Figure 1 about here

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with cooperative testing showed no significant variations in performance according to the type of test. In contrast, Group B which started with individual testing showed significantly better performance on the cooperative testing than on the individual testing.

In Figure 2, the scores for the comparison group are

Insert Figure 2 about here

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added to illustrate a typical pattern of course grades over the semester. The only point in time at which cooperative testing provides a distinct advantage is at the fourth exam.

In addition to the differences in performance, differences in behavior were found in the cooperative and individual sessions. Students spent significantly more time working on the test when working cooperatively than when working individually, $F(1, 117) = 10.4$ $p < .01$).

Insert Table 2 about here

They also decreased the time spent on the tests as the semester progressed, $F(1, 117) = 44.1$, $p < .01$). Of course, the atmosphere was very different during the two types of testing with talking and laughing during the cooperative testing. No systematic observation of the content of the interactions was done but informal observation revealed a range of interactions from debates over the answers to social exchanges.

Analysis of the anxiety scores revealed no differences in anxiety for the two types of testing although there was a tendency for anxiety to decrease with repeated exposure. There was a strong preference

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Insert Table 3 about here

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for cooperative testing which was independent of the type of test the student was taking that day, p (46) < .001.

Insert Table 4 about here

When asked to predict their expected performance when compared to their performance on the previous exam, the two classes showed different patterns of expectation for success, $F(2, 70) = 5.6$, $p < .05$). As Figure 3

Insert Figure 3 about here

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shows, the students who started with cooperative testing were unaffected by the type of exam while the students who started with individual testing expected greater success with cooperative testing than with individual testing.

Discussion

At first glance, cooperative testing did seem to produce superior performance, a finding consistent with the cooperative learning literature. However, closer inspection of the patterns of performance within groups suggests that not all students benefit equally from cooperative testing. The two groups in this counterbalanced design showed very different patterns of performance prompting speculation about the conditions under which cooperative testing makes a difference.

There were two major systematic differences between the groups in the study: order of testing and subject variables. Group A received cooperative testing first and consisted largely of traditional age students. Group B received individual testing first and consisted largely of older, continuing education students. These two factors are confounded and it was not possible to analyze age as a separate factor.

In thinking about a possible order effect, it may be that some sort of contrast effect produced the decline in Group A's performance from their initial cooperative testing to the following individual testing. Lambiotte et al. (1987) have suggested that partners may become dependent on each other and may suffer from a loss of

support when they subsequently must work individually. In the present study, however, subjects had repeated trials with the two modes of testing and both groups showed similar up and down patterns across conditions regardless of which type of testing was received first. Another implication of these up and down findings is that whatever benefit derived from cooperative testing did not transfer to the individual testing situation. This lack of transfer is certainly consistent with previous findings (Lambiotte et al. (1987) and Farland and Gullickson (1984)).

It would appear, then, that subject variables are at work in producing the differences in the two groups. Since this was an experiment in a natural setting, subjects could not be randomly assigned to conditions. The major systematic difference in the groups appears to be age: traditional versus non-traditional. The data suggest that the non-traditional students benefit more from the opportunity to work cooperatively.

Exactly which characteristics of the adult learner might account for their greater responsiveness to cooperative testing is difficult to pinpoint. As Brookfield (1986) notes, the research provides no evidence of a consistent learning style among non-

traditional students. In fact, there may be more diversity in learning styles among adults than among younger learners since adults have the potential for a much broader range of cognitive developmental levels.

The most consistent finding in the adult learning literature seems to be that adults prefer learning situations which are tied to their life experience and which provide a supportive, collaborative atmosphere (Brookfield, 1986). The cooperative testing paradigm would seem to be consistent with this latter preference. More research is needed in this area, however, since there is no empirical support for the notion that collaboration or cooperation raises the actual level of performance of the adult learner (Imel, 1991).

In addition to performance factors, other qualitative differences were also found between cooperative and individual testing. Students clearly preferred cooperative testing. However, students did not have to participate in the study and 20% of the traditional students and 35% of the nontraditional students chose not to participate. Thus it may be, particularly among the adult learners, that only those whose self-perceived learning style is compatible with working cooperatively chose this modality. It may be

that traditional age students are less aware of their optimum modality or are more reluctant to go against the group trend. Thus the variation in the benefits of cooperative testing may represent a testing by learning style interaction.

There was also a difference in expectations for success in the traditional and non-traditional groups with the adult learners perceiving greater performance benefits from cooperative testing. Since they actually did benefit more, this difference may simply represent accurate perceptions of performance on the parts of the two groups.

One reason for using cooperative situations is the positive affect that generally surrounds them (Johnson, et al (1981), Lambiotte, et al (1987), Farland & Gullickson (1984)). It had been expected that working in pairs might reduce anxiety and that anxiety reduction might be a mediator of improved performance. However, no difference in self-rated anxiety was found among the various groups, a finding which is consistent with Farland and Gullickson (1984).

Finally, it was found, not surprisingly, that students taking a test cooperatively spend longer working on the test. It is not clear whether this extra time

reflected just simple social communication or information sharing or if it reflected more substantive discussions. Dimant and Bearison (1991) have found that frequency of interaction in dyads in a problem solving situation is associated with improved performance but only if the interactions are task relevant. They considered interactions which had the potential to move college student subjects from the concrete operational to the formal operational stages. Although we have no data on this question it is possible that the older students engaged in more task relevant interactions at higher cognitive levels resulting in greater benefits from the cooperative testing situation.

The present study parallels earlier studies of cooperative testing in that the results fall into no simple pattern. Although cooperative testing appears to have some performance benefits, who benefits and the precise nature of the benefits remain to be clarified. The one consistent finding across numerous situations is that students like cooperative learning and testing and feel that it helps their performance. This positive attitudinal benefit may be enough to justify its use particularly in situations where repeated testing can lead to negative affect.

References

Brookfield, S.D. (1986). Understanding and Facilitating Adult Learning. San Francisco: **Jossey-Bass**.

Dimant, R.J. and Bearison, D.J. (1991). Development of formal reasoning during successive peer interactions. Developmental Psychology, 27, 277-284.

Farland, D.S. and Gullickson, A.R. (1984). Cooperative test-taking. Paper presented at the Annual Meeting of the Northern Rocky Mountain Educational Research Association, Jackson, Wyoming.

Imel, S. (1991). Collaborative learning in adult education. Eric Digest, 113.

Table 1

Mean Scores on Tests Taken Cooperatively and Individually

Trial	Type of Test	
	Cooperative	Individual
1	42.13	38.73
2	42.68	39.43

Table 2

Mean Completion Time (in min.) for Cooperative and Indivual Testing

Trial	Type of Testing	
	Individual	Cooperative
1	38.95	44.33
2	33.43	42.7

Table 3

Anxiety Levels on Individual and Cooperative Testing

Trial	Type of Testing	
	Individual	Cooperative
1	2.8	2.78
2	2.68	2.53

Table 4

Percentage of Students Preferring Cooperative Testing Following Administration of Individual or Cooperative Exams

Type of Test	% Perferring Cooperative Testing
Individual	78
Cooperative	85

Figure 1. PATTERNS OF TEST SCORES

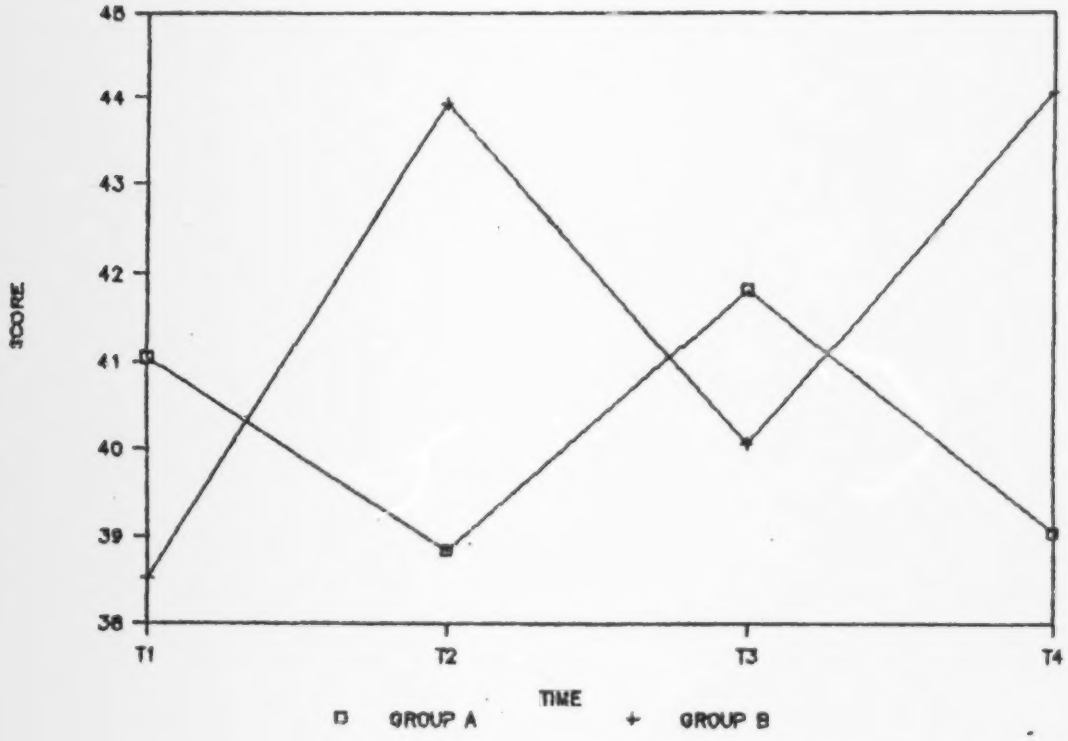


Figure 2. PATTERNS OF TEST SCORES

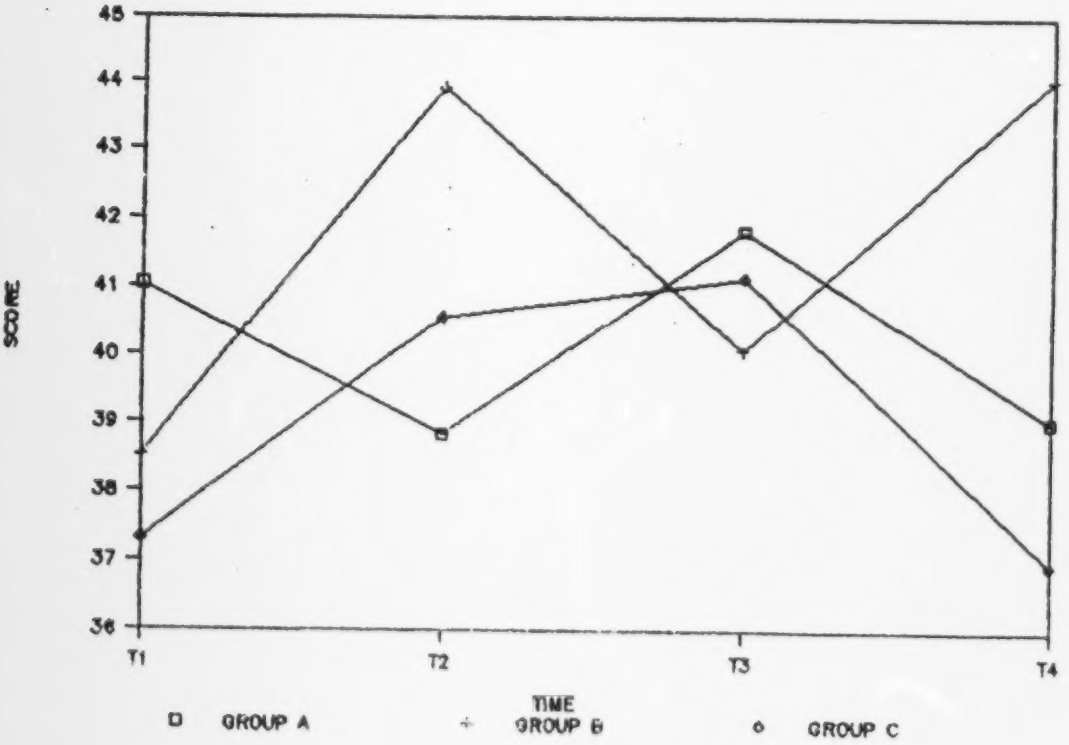
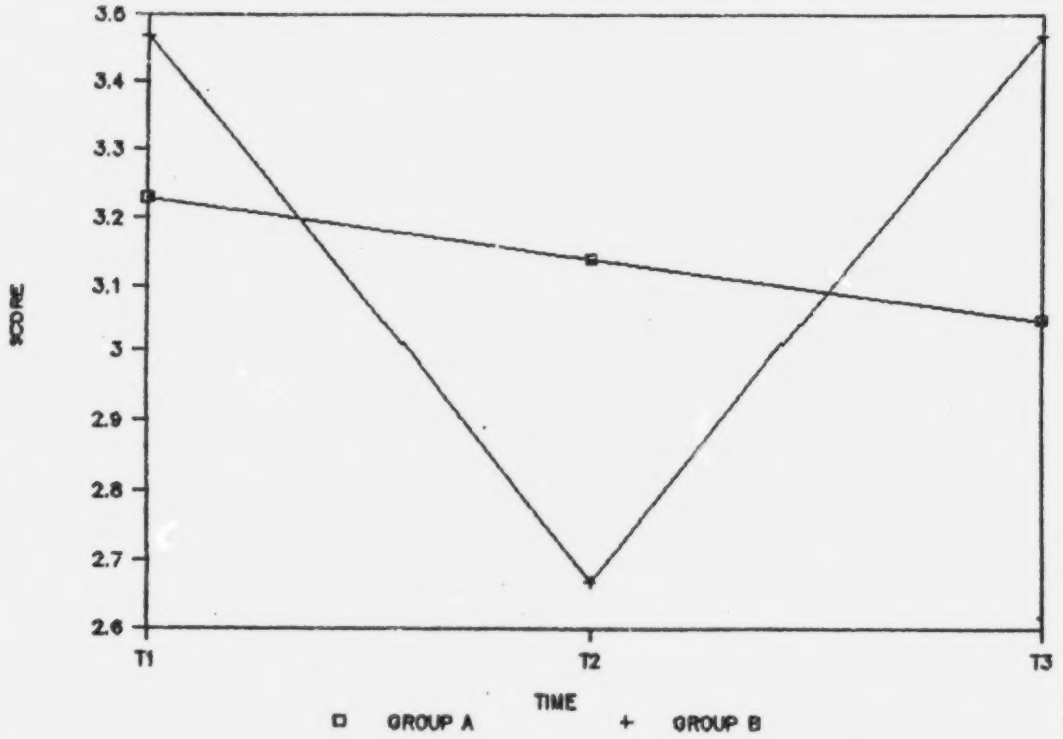


Figure 3. EXPECTATIONS FOR SUCCESS



Collaborative Case-Study Learning in Psychology: Notes from General Education Science Curriculum Reform

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Abstract

This talk discusses a method a collaborative learning, consisting of team learning and the case method approach, designed to enhance reflective judgement type of critical thinking, and incorporate means of classroom assessment. A course outline, case example, and case development suggestions will be presented. Insights from general education science reform at SUNY at Buffalo are drawn upon and are timely in a climate where psychology, as a discipline, is concerned with its scientific image and there are nationwide concerns over the lack of scientific literacy at all age levels.

Promoting Critical Thinking and Scientific Literacy: Notes from General Education Curriculum Reform

At this juncture in psychology's history there are attempts to enhance the scientific status of psychology, as evidenced by the APA Science Directorate and the formation of the American Psychological Society. This is occurring at the exact same time that cries of scientific illiteracy are being heard in the United States (Beardsley, 1988; Chinnici, 1992; Miller, 1987; Mullis & Jenkins, 1988; Shahn, 1988). Several remedial pedagogical projects have been initiated and proposed, e.g., Project 2061 (Rutheford & Ahlgren, 1990), and the popular press abounds with books and manuals that promise to tell all that one needs to know to achieve scientific literacy (e.g., Brennan, 1992; Hazen & Trefil, 1991; Hirsch, Kett, & Trefil, 1988). What voice will psychology faculty have in this dialogue that has such important pedagogical and policy implications? At the same time, psychologists are challenged to become aware of their contribution to such shortfalls in science attitude, interest, and factual knowledge of the scientific inquiry process.

It has been suggested that traditional lecturing methods heavily emphasizing the memorization of content based facts may be largely responsible for some of these literacy problems (Atkin, 1983). Classroom assessment techniques (Cross & Angelo, 1988) are an effective means of counteracting some of the inherent problems of the lecture format, providing for a better lecture classroom. Most notably it helps faculty who use them, or observe their use, to deconstruct the fantasy that students are understanding their "brilliant" lectures. A simple one minute essay can be a pivotal experience in the development of a faculty member. What seems so clear and transparent to him or her is frequently opaque, disfigured, or lost on students. Classroom assessment provides the kind of feedback not adequately provided

by traditional exams, especially standard multiple choice format. In addition, whatever exams tell is told too late. Classroom assessment evaluates the teaching--not the students--thus improving learning and consequently performance (Cross & Angelo, 1988). Classroom assessment techniques are an essential first step. Further transformations are necessary and possible.

In addition to lecturing and using classroom assessment techniques, methods of collaborative learning exist that have assessment and points of feedback built directly into their structure. One method combines the team teaching work of Michaelson (Feichtner & Davis, 1985; Michaelson, 1992; Michaelson, Watson, & Shrader, 1984-85; Michaelson & Watson, 1981) and the case learning method (Welty, 1989). Currently, such an approach is being successfully used to teach a course in scientific inquiry to general education students enrolled at the State University of New York at Buffalo. This course focuses on cases involving a significant core component of science that are controversial and have public policy implications. Resolutions to the controversies are not clear and dualistic appeal to authority or the search for the right answer is thwarted. This type of ill-structured problem-solving is believed to enhance critical thinking along the lines of Perry's scheme of intellectual development (Halonen, 1986; Perry, 1970) and reflective judgement (Brabeck, 1983; King, Kitchener, Davis, & Wood, 1983; Kitchener & King, 1981). This classroom method can be directly transferred to the teaching of many different psychology topics.

This talk will present an overview of the team teaching/case method approach and provide an outline for a course in abnormal psychology/psychopathology. Structuring the classroom environment in this way builds in immediate forms of assessment due to the necessary high level of student participation and evaluative feedback. It also takes account of the

diversity of possible learning styles and, with thoughtful structuring of tasks, can offer all students something consistent with their preferred ways of learning and different ways of knowing (Belenky, Clinchy, Goldberger, & Tarule, 1986). Other forms of assessment, currently being implemented at the State University of New York at Buffalo will be discussed. These include pre/post evaluations of attitude, critical thinking, and world views. An outline of a particular case and some suggestions for the formation of cases will form the body of this presentation. In addition, some comments will be addressed to the issue of faculty resistance to such new ideas. Anecdotes will be presented from our experience with major general education curriculum reform at the State University of New York at Buffalo.

References

Atkin, J. M. (1983). The improvement of science teaching. Daedalus, 112(2), 167-187.

Beardsley, T. M. (1988). Unscientific American: School science remains a national humiliation. Scientific American, 259, 26-27.

Belenky, M. F., Clinchy, B. M., Goldberger, N.R., & Tarule, J. M. (1986). Women's ways of knowing: The development of self, voice and mind. New York: Basic Books.

Brabeck, M. M. (1983). Critical thinking skills and reflective judgement: Redefining the aims of higher education. Journal of Applied Developmental Psychology, 4, 23-34.

Brennan, R. P. (1992). Dictionary of Scientific Literacy. New York: Wiley.

Chinnici, J. P. (1992). Without this knowledge, we could ruin the world!: Scientific literacy at VCU.

Cross, K. P. & Angelo, T. A. (1988). Classroom assessment techniques: A handbook for faculty. NCRIPTAL

Feichtner, S. B. & Davis, E. A. (1985). Why some groups fail: A survey of students' experience with learning groups. The Organizational Behavior and Teaching Review, 9, 58-73.

Halonen, J. (1986). (Ed.). Teaching critical thinking in psychology. Milwaukee: Alverno Productions.

Hazen, R. M., & Trefil, J. (1991). Science matters: Achieving scientific literacy. New York: Doubleday.

Hirsch, E. D., Jr., Kett, J. F., & Trefil, J. (1988). The Dictionary of Cultural literacy. Boston: Houghton Mifflin.

King, P. M., Kitchener, K. S., Davison, M. L., & Wood, P. K. (1983). The justification of beliefs in young adults: A longitudinal study. Human Development, 26, 106-116.

Kitchener, K.S., and King, P. M. (1981). Reflective judgement: Concepts of justification and their relationship to age and education. Journal of Applied Developmental Psychology, 2, 89-116.

Michaelson, L . K. & Watson, W. E. (1981). Grading and anxiety: A strategy for coping. Exchange: The Organizational Behavior Teaching Journal, 6, 32-36.

Michaelson, L, Watson, W. E., & Shrader, C. B. (1984-1985). Informative testing–A practical approach to tutoring with groups. Journal of the Organizational Behavior Teaching Society, 9, 18-33.

Michaelson, L. K. (1992). Team Learning: A comprehensive approach for harnessing the power of small groups in higher education. (forthcoming in To improve the academy.

Miller, J. D. (1987). The scientifically illiterate. American Demographics, 9, 26-31.

Mullis, I. V. S. & Jenkins, L. B. (1988). The science report card: elements of risk and recovery. Princeton, NJ: Educational Testing Service.

Perry, W. (1970). Intellectual development in the college years. New York: Holt, Reinhart, & Winston.

Rutheford, F. J., & Ahlgren, A. (1990). Science for all Americans. New York: Oxford University Press.

Shahn, E. (1988). On science literacy. Educational philosophy and theory, 20, 42-52.

Welty, W. M. (1989). Discussion method teaching. Chase: The Magazine of higher learning, 41-49.

"BEYOND TESTING AND GRADING . . . A CRITICAL THINKING STATE OF MIND"

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Abstract

"BEYOND TESTING AND GRADING. . . A CRITICAL THINKING STATE OF MIND"

A challenge to instructors to link formal classroom assessment with "Teaching Opportunity," "Learning Moment," and "Critical Thinking." Assessment system is presented designed around core principles but allowing for individual instructor variation. This "System" is outlined to focus on "Critical Thinking" as an ideal goal and behavioral outcome when the process is effectively engaged and implemented.

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"BEYOND TESTING AND GRADING. . . A CRITICAL THINKING STATE OF MIND"

The importance of classroom assessment cannot be overestimated. It is, however, undervalued as a "Teaching Opportunity," a "Learning Moment," and as a way to promote "Critical Thinking."

Students are extremely interested in how their learning will be evaluated. The possibility of achieving a high grade motivates most students. This achievement provides a sense of intelligence, a validation of work ethic, a measure of approval and recognition, and a boost to self esteem. Yet, there exists the rationale, reason, and ability for instructors to go beyond testing and grading to a finer state of critical thinking.

Regardless of the assessment method(s) selected, the content material and time frame delineated in virtually all syllabi does not allow for appropriate and suitable assessment to link with "Teaching Opportunity", "Learning Moments", or elements of "Critical Thinking". The premise underlying this linkage is founded on the ability of an instructor to embrace the student's desire to have a "System of Assessment" that is scheduled, predictable, and valuable. When this systems approach is fully engaged and operational the instructor realizes salient teaching opportunities. Students recognize how the system provides for significant learning experience as well as contributing toward a final course grade.

Our litigious society demands that assessment procedures be clear and defensible. Unfortunately, this demand sterilizes most assessment process of passion, heart, and the ability to access the deepest levels of intellectual reserves students may possess. This necessity to constantly be overly protective and defensive reduces assessment to a cold surgical tool with a singular evaluative objective, a test followed by a grade. In order to fill this prescriptive bill, objective testing is over utilized and subjective testing under utilized. This contributes to the feeding frenzy of scrutiny and criticism the current educational system finds itself attempting to endure and respond to effectively. On every list of "faults" resides the failure to teach "critical thinking" design, exercise, and measurable expression. Assessment that depends exclusively on "objective" instruments and theory cannot rectify this situation. . .or can it?

"Assessment Systems" can intensively provide a legitimate response by linking teaching, learning, and the process of critical thinking. Instructors can create the following assessment dimensions: the examination of teaching methods, the revealing of vital student learning styles, and the rejuvenation of student incentive and motivation. As students become active participants through the systems approach, not passive receptors, critical thinking is born.

The following "Assessment System" is offered as a guide and conceptual foundation. An infinite number of instructor designed variations are possible but the following basic tenets should be rigorously observed: 1. objective and subjective assessment must be selected; 2. all assessment methods must provide results as quickly as possible; 3. at the precise time results are available, critical thinking must be promoted; and, 4. instructors must be secure, willing, and prepared to give credibility to major student points that emerge from the free exercise of the critical thinking process.

This systems approach provides fertile ground for teacher-student communication and learning dynamics to soar. These dynamics include listening and validating student participation in the assessment procedures and causing them to explore various degrees of success inherent in solid critical thinking process and experience. Interest, incentive, motivation, attendance, learning, and skill building are integrated in this system.

This methodology has been tried, tested, and successfully adapted to five different psychology classes over a two year period at a community college. This window of opportunity may be useful to improve and upgrade current evaluation and assessment techniques. The choice is yours.

Who benefits from extra credit?

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Who benefits from extra credit?

Mark E. Mattson

Fordham University

It is my practice to offer students the option of doing an extra assignment in order to improve their grades. The purpose of this talk is to explore reasons for offering extra credit assignments, to describe one type of assignment, and to see which students are benefitting from this option.

One important reason for permitting extra credit is the intrinsic worth of the particular assignment. At some schools extra credit is given for participation in psychological research (see, e.g., Leak, 1981). The benefits to the participating student include gaining insight into the research process. The assignment that I have used most often is to have the students locate articles that are related to the course and interesting to them. The students must read and summarize the article, then integrate it with the course content. For example, one student in a cognition course found an article by Hyman and Rubin (1990) on memory for the words of Beatle songs. She integrated the article with the course by discussing aspects of memory, including the ecological approach discussed in our text (Matlin, 1989) and in class. This assignment is useful because it involves a range of skills, from research to critical thinking.

More general reasons for extra credit include: giving students a greater feeling of control over their grade; providing a consistent answer to the oft-heard question, "what can I do to improve my grade?"; and giving hope to students who do badly at

first. I hoped that extra credit would especially benefit two groups: students doing very poorly overall, and students who were "obsessed" by grades, such those hoping to enter graduate school.

In order to assess who benefits from extra credit, I did an analysis of the final grades and extra credit grades of 220 students over a three year period. The main finding was that there was a significant relationship between the final letter grade and whether or not the student chose to do the extra credit ($\chi^2(4, n = 220) = 43.9, p < .001$). Specifically, more students with high grades did the extra credit, and more students with low grades did not do it, than expected, as can be seen in Table 1. So, while the assignment seems to be helping the good students, it is not helping those that need it the most. And this is despite a great deal of emphasis by the instructor on the importance of the assignment for these students when they come in to speak to me individually. Reasons for this discrepancy, and some further analyses, will be presented in the talk.

References

Hyman, I., Jr. & Rubin, D. (1990). Memorabeatlia: A naturalistic study of long-term memory. Memory and Cognition, 18, 205-214.

Leak, G.K. (1981). Student perception of coercion and value from participation in psychological research. Teaching of Psychology, 8, 147-149.

Matlin, M.W. (1989). Cognition (2nd ed.). New York: Holt, Rinehart and Winston.

Table 1.

Two-way contingency table for final letter grade and whether student did extra credit.

Letter Grade*	No Extra Credit		Yes Extra Credit	
	Actual	Expected	Actual	Expected
A	6	13.7	61	53.3
B	10	12.3	50	47.7
C	10	10.2	40	39.8
D	8	6.3	23	24.7
F	11	2.5	1	9.5
TOTAL	45		175	

* Letter grade categories are summed to eliminate plus and minus grades; the same significant pattern is found when plus and minus grades are included as separate categories.

The Senior Coordinating Seminar As a Vehicle for Assessment of the Major

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Abstract

This paper describes a capstone course titled "Coordinating Seminar" that is used as a vehicle for assessment of the psychology major at Rivier College. Selected highlights in the history of assessment in higher education and psychology are briefly reviewed and an emergent model for curricular reform is described. Also discussed is how various academic departments at Rivier College have initiated asnd strengthened program evaluation through classroom assessment. Seminar courses for majors can be effectively used as an important component of the comprehensive college-wide evaluation process.

Introduction

I'd like to begin by telling you a story from a collection of writings about the exploits of the incomparable Mulla Nasrudin, a fictional Islamic teacher and holy man (Shah, 1985, p.2). The title of the story is "Why we are here."

While walking home one evening along a deserted road, Nasrudin suddenly saw a troop of horsemen riding toward him. His imagination started to work, and he saw himself captured and sold as a slave or drafted into the army. He ran away as fast as he could and, climbing a wall into a nearby graveyard, tried to hide himself by lying down in an open tomb.

The horsemen, who were actually honest travelers, were puzzled at Nasrudin's strange behavior and followed him into the graveyard. They found him stretched out, tense and quivering.

"What are you doing in that grave?" the horsemen asked. "We saw you running away. Can we help you?"

Nasrudin, who now realized what had happened, said, "Just because you can ask a question does not mean that there is a straightforward answer to it. It all depends upon your viewpoint."

"If you must know, however: I am here because of you, and you are here because of me."

Why are we here? We are here because classroom assessment as a vehicle for generating educational improvement is a "hot topic" in undergraduate education today. State legislatures are demanding that colleges develop assessment plans. Accrediting associations

are focusing upon assessment of student learning. Self-study programs to help in departmental or program review have proliferated. Conferences on assessment, such as this one, abound.

The purpose of my paper today is to discuss a capstone course I have developed called "Coordinating Seminar" that is used as a vehicle for assessment of our psychology program at Rivier College, a small Roman Catholic liberal arts college in northern New England. My interest in the area of assessment dates back to 1986 when I became Chairperson of the Behavioral Sciences Department at Rivier College. As a member also of the College's subcommittee on "Assessment of Major Programs," I've had the double opportunity not only to assess psychology program objectives but also learn about the assessment activities of other departments at the College in fields as diverse as Art, Biology, Business, Chemistry, Computer Science, Education, English, Math, Modern Languages, and Nursing.

I will set the context for my discussion by briefly reviewing selected highlights in the history of assessment in higher education and psychology and describe the model for curricular reform that has emerged. I will also discuss how departments at Rivier College have initiated and strengthened program evaluation through classroom assessment. I think that this preliminary discussion will give you a better idea of what I'm trying to do in the Seminar and how classroom assessment can function as a part of the larger college-wide evaluation process that may be going on at the college where you teach.

National Assessment of Higher Education

If I were asked to identify highpoints in the development of this call for accountability in higher education,

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Insert Table 1 about here

I would begin with the U.S. Department of Education's release of Involvement in learning: Realizing the potential of American higher education, the 1984 national report that, in the words of its authors, "raised assessment to a first principle of improvement in higher education" (Adelman, 1986, p.v).

Next I would note the National Conference on Assessment in Higher Education hosted by the University of South Carolina at Columbia in October 1985. This conference proceeded to clarify the ramifications of assessment as a national policy issue and began discussion of ways to develop effective assessment structures in American higher education (Adelman, 1986). Ewell's (1985) book provides a good snapshot of innovative assessment programs occurring on various university and college campuses at that time and is considered to be "basic reading" for anyone interested in assessment in higher education (Eison, 1987, p. 152).

As time went on efforts at understanding what assessment means, why to do it, and how to do it became more specific. In 1987 and 1988 colleges and universities began to address the tough questions regarding the technical aspects of method,

instrumentation, and uses of assessment in major curriculum areas such as basic skills, general education, and the major (Halpern, 1987; Rossmann & El-Khawas, 1987, June).

In 1987, for example, self-study programs were initiated to help in departmental or program review (e.g., the Institutional Research Program for Higher Education (IRPHE) and Program Self-Assessment Service (PSAS) offered by the Educational Testing Service (ETS) of Princeton, New Jersey). The Major Field Achievement Tests were also developed through a joint effort of ETS and the Graduate Record Examinations (GRE) Board to provide, in the words of the informational brochure, "an instrument for assessing mastery of concepts, principles, and knowledge typically expected of students upon completion of an undergraduate major in a given subject." These tests would not only evaluate student academic achievement in the major but also provide national comparative data.

The 1988 essay by Mark I. Appelbaum (1988, pp. 117-137) titled "Assessment through the major" is an excellent example of this attempt to examine emerging assessment technologies which address the technical and operational aspects of assessment at the department or major program level.

The literature at this point is volumnious. Let it suffice to say that many people have been working hard and making progress in assessment. Recently the Association of American Colleges and the American Association for Higher Education have published sets of

principles for assessing student learning that synthesize important work already done (American Association for Higher Education Assessment Forum, 1993, January; Association of American Colleges, 1992). Angelo and Cross (1993) have been able to put these principles into action by describing many current classroom assessment techniques in a manner that many college teachers will find extraordinarily useful.

National Assessment of the Psychology Major

We can see a parallel development to this national call for accountability in higher education in the efforts at assessing educational outcomes of psychology majors.

Insert Table 2 about here

Ever since the journal Teaching of Psychology (ToP) first appeared in 1971, many academic psychologists have described their efforts at assessing psychology curricula (see, for example, the special edition of ToP devoted entirely to the topic of "Undergraduate Psychology Education in the Next Decade," (see especially the article by Matthews (1982, pp. 49-52)).

The influence of this more specific call for assessment of the psychology major can also be seen in the various workshops that have been sponsored by the American Psychological Association (APA). I vividly remember attending an excellent workshop lead by

Thomas V. McGovern and co-sponsored by the Division 2 (Teaching of Psychology) at APA's 1987 annual convention. Titled "Developing and evaluating undergraduate psychology programs," this workshop proposed several models for evaluating and renewing department programs, focusing upon student characteristics, curricula models, career programming, alumni assessment, and liberal arts outcomes.

In 1987 psychologist Jim Eison (1987, Winter), in cooperation with the Center for Teaching and Learning at Southeast Missouri State University), compiled a valuable annotated bibliography listing over 20 assessment resources to aid in program development. Reprints are available from APA (Undergraduate Update, APA Office of Educational Affairs, 750 First Street, NE, Washington, DC 20002-4242).

A 1988 article by Diane Halpern (1988) in Teaching of Psychology presents useful guidelines for employing a multimethod approach to the task of evaluating and assessing the learning outcomes of psychology majors.

A "call to arms" was sounded by Jim Eison and Jim Palladino in a well-written article in 1988 titled "Psychology's assessment role" appearing in the APA Monitor (Eison & Palladino, 1988, September). They noted our profession's past oversights in addressing with assessment issues and they critically examined a variety of assessment activities for evaluating learning outcomes in the major. Most notably they described a model of how the results of program assessment can be used to aid in curriculum

reform.

During the 1990's new organizations have been formed within psychology (e.g., the Council of Undergraduate Psychology Programs (CUPP) founded in 1990) which sponsored symposia on the why, what, and how of psychology program assessment (For more information on CUPP write to: L. W. McCallum, Dept. of Psych., Augustana College, Rock Island, IL 61201).

The recent 1991 report by APA titled "Liberal Education, Study in Depth, and the Arts and Sciences Major--Psychology" (McGovern, Furumoto, Halpern, Kimble & McKeachie, 1991, June) is another example of this general review of arts and sciences majors that is taking place as a part of our nation's continuing commitment to advance and strengthen undergraduate liberal arts learning. The APA report not only describes ways to measure and evaluate psychology program outcomes and student learning, but also suggests how to achieve a a common framework for psychology course requirements adaptable to a variety of institutional settings.

In 1991 APA held a national conference on "Enhancing the Quality of Undergraduate Education in Psychology" at St. Mary's College of Maryland that, in the words of one of its promotors, was "the first conference of its kind to be held on the topic of undergraduate psychology in thirty years" (Baum, 1992). One aim of the conference was to identify a set of essential principles for quality undergraduate programming which include: (1) clearly stated and achievable outcomes for curriculum and other program related

experiences: (2) multiple measures of students' learning; (3) planned opportunities for systematic feedback to students on their progress: (4) specific plan to use the data from assessment to improve individual course instruction and the overall curriculum: and (5) opportunities to communicate assessment results to the multiple constituencies of undergraduate psychology .

Most recently, as APA began its centennial year, it has initiated the development of a "first of its kind" national database on the 3,200 institutions throughout the United States having two- and four-year undergraduate programs in psychology. Such a comprehensive database may significantly improve APA's understanding of undergraduate psychology education and its ability to engage in strategic planning for the undergraduate major.

General Model for Curriculum Reform

As I reviewed the literature for this presentation, I began to perceive an emerging theme which is represented in Table 3:

Insert Table 3 about here

This curriculum model touches upon the theme of classroom assessment in a very important way. The model basically states: If we want the results of classroom assessment to contribute to curriculum reform, then the outcomes we want in individual psychology courses should interact with psychology program

objectives which, in turn, should be consistent with the broader general education and institutional goals found in the mission statement of the College or University in which we teach.

Course goals are not in isolation from department goals: department goals are not in isolation from the general education (liberal arts) goals of the institution itself. On this view, assessment is the logical vehicle to drive curriculum development at all levels.

Distinctions are to be made, of course, among assessing students, assessing programs, and assessing the college-wide academic goals (in this case, the liberal arts curriculum). The role of each individual course is seen as extending and advancing some program objectives or college-wide academic goals but not necessarily all of them. Course instructors are not required to address all college-wide academic goals in all courses all of the time, nor should the assessment of students within courses be the only way of assessing psychology major program objectives. Other kinds of assessment strategies are needed to adequately assess general education and psychology program goals. These may involve: (1) polling alumni and employers, (2) requiring seniors to take a nationally standardized exam like the GRE Psychology Advanced Examination, (3) administering an in-house produced comprehensive examination, (4) requiring the writing of a thesis or compiling of a portfolio, or (5) offering a capstone course such as the Coordinating Seminar that might involve some of all of these

elements.

Academic Assessment at Rivier College.

But before I describe that capstone course I will briefly discuss how classroom outcomes, program objectives, and institutional goals concretely relate to each other in the particular instance of the place at which I teach, Rivier College. Assessment has been defined by Rivier College as a college-wide effort to document and verify the amount and quality of educational (academic) change in the student(s) between the point of entry and the point of completing an academic unit or sequence. This change must be clearly related to stated course, program or institutional goals and logically connected to the strategies that provide opportunity to achieve those stated goals.

The four-fold challenge for the College's subcommittee on "Assessment of Major Programs" has been to (1) convert college-wide academic goals and standards for classroom academic assessment into behavioral objectives; (2) encourage departments to incorporate the college-wide academic goals into their individual programs and course objectives; (3) encourage departments to clearly connect these goals with specific courses, course sequences, or classroom teaching strategies; and (4) encourage departments to identify specific criteria for the assessment of outcomes rather than simply saying that outcomes are assessed through tests and exams.

One outcome of Rivier's curriculum reform efforts (that is particularly relevant to the theme of this conference) has been the

successful integration of college-wide academic goals described in the College's mission statement with the academic standards on which classroom grades are based.

Table 4 presents how the College's seven general education goals relate to the academic standards used in assigning classroom grades to students.

Insert Table 4 about here

Our goal is to have individual course grades reflect the degree to which the student has achieved both course objectives and college-wide competencies (whenever possible and at an appropriate level for that course and subject matter).

Substantive faculty input was used to provide a firm foundation for this assessment evolution. Many full-assembly faculty meetings were devoted to asking very basic questions about college-wide academic goals, strategies, and outcome criteria: What do these goals mean to us? How do we implement these goals in our courses? How do we determine if these goals have been achieved by the students?

We asked similar questions about assessing the major: What courses or sequence of courses does each department employ to achieve these goals? What assessment criteria and instruments are to be used to determine their success? How does each department know the degree to which department strategies achieve these goals?

Results of these faculty discussions were circulated among departments so that chairpersons and program directors could see what their colleagues were doing. Part-time faculty became involved also. Although involvement in assessment caused some faculty to resent the added responsibility, generally it has increased faculty identification with the mission of the College and has allowed for a greater diversity and richness of responses relative to our general education/ institutional goals.

As you may have guessed, it isa process that is easier described than done. I discovered in faculty discussions that departmental goals, strategies, and outcome criteria: (1) often did not logically connect together: (2) could be quite vague or difficult to specify operationally; and (3) often did not relate to the larger institutional mission or liberal arts curriculum goals. Gaps would be noted between stated goals and their respective assessment methods. Only a few departments were already addressing college-wide academic goals with their programs or within individual courses. Feedback also indicated a lack of interdependence as if there were little connection between departments and the college itself (e.g., the student who is astonished to have a paper in his/her major course evaluated for punctuation, grammar, and spelling by a professor outside the English department). Often feedback indicated that there was a murky understanding of what assessment is -- even within the major.

There is a story from the exploits of Nasrudin that

illustrates in a poignant way the inherent difficulties involved in any attempt to precisely define the meaning of "academic assessment." (Shah, 1985, p.27). One day a group of seven scholars went to examine Nasrudin and asked him "What is Truth?"

Nasrudin replied by asking the seven scholars to first answer his question: "What is bread?"

One said that "Bread is food:" another that "It is flower and water." A third said, "It is a gift of God." A fourth said, "It's baked dough." Another said "It's a nutritious substance." The sixth said, "It depends on what you mean by "bread," and the seventh said that, "Nobody really knows what bread is."

After all these points of view were given, Nasrudin said, "How can I entrust matters of assessment and judgment to people like you? Is it or is it not strange that you cannot agree about something which you eat each day? When you decide what bread is, then it will be possible for you to decide other things."

And the lesson, of course, is that assessement, like bread, is a daily issue, something that we do every day in our classrooms, and yet remains a difficult concept to precisely define, since everyone will have a different understanding of it.

Despite these ambiguities and uncertainties, however, creative solutions to the problems of assessment emerged. Analyzing general goals down into more specific objectives and competencies would more precisely indicate pedagogy use and the component skills involved. A review of exams and syllabi of courses in a given major

program helped identify assessment strategies that were common across programs without reducing assessment to the course level.

Departments began to indicate how individual courses addressed not only departmental program objectives but also college-wide academic goals. Specific programs came to be seen as providing a catalyst for specific skills (i.e. English for communication skills, Philosophy for critical thinking skills) while the rest of the core curriculum and major programs would be viewed as extenders of these skills.

One indication of how well this has been done is through course evaluations. A sample course evaluation form currently in use is presented in Table 5.

Insert Table 5 about here

Students use a 4-point Likert-type scale to evaluate both the teaching/learning process and the achievement of basic skills and competencies that are a part of the general education goals of the college (such as the improvement of writing, speaking, and critical thinking skills; clarification of personal values; and awareness of sex/gender issues and cultural diversity within the discipline.

A second outcome of Rivier College's curriculum reform efforts has been the integration of college-wide academic goals with psychology program objectives.

Table 6 identifies how the six major psychology program

objectives relate to the seven college-wide academic goals identified earlier.

Insert Table 6 about here

Notice that these program objectives are stated in broad, general terms and formulated within the framework of Bloom's taxonomy of cognitive objectives while, at the course level, the desired outcomes are more precisely described

Method

Coordinating Seminar

To assess the degree to which these psychology objectives were being achieved by students in the program, I developed a "capstone" course for our majors that they take during the last semester of their senior year. The course is called "Coordinating Seminar" because its purpose is to review and coordinate the information about psychology that students have acquired throughout their undergraduate experience, while focusing also on career opportunities, graduate school preparation, and controversial issues in the field. The syllabus for the course is presented in the Appendix.

The syllabus identifies the required and recommended textbooks for the course, the general instructional goals and the more specific learning objectives, skills, and competencies that the student should be able to demonstrate after completing the course.

Table 7 points out how the learning goals of the Coordinating Seminar can be related to one or more of our psychology program objectives and college-wide academic goals.

Insert Table 7 about here

Teaching strategies that are designed to provide the basis and opportunity for the skill or competency to be developed are logically connected to the learning objectives. Assessment criteria that are used to determine the success of the teaching strategies in helping students achieve the learning objectives are also logically connected to the learning objectives and are specified in behavioral terms. In this manner learning goals are clearly related to both teaching strategies and outcome assessment. The methods used to determine outcomes make clear what criteria will be employed to give evidence of the acquisition of the learning objectives so that the overall instructional goals are realized.

The criteria used to assess outcomes also provide a means of assessing whether the methods used to ensure desired outcomes really work. If outcomes were not achieved, why not? Perhaps the teaching strategies were inappropriate. Perhaps the methods were appropriate but not used in sufficient depth or frequency. Perhaps new methods are needed and/or old ones need to be refined. Or is the assessment method itself faulty? Analysis of outcomes can

provide important feedback on assessment of the teaching strategies and the assessment method itself.

Results and Discussion

How well does the course do its job? The effectiveness of this course in addressing graduate school, career, personal development (critical thinking), and program assessmsent issues described earlier is evaluated in a variety of ways.

Perhaps the most dramatic result pertains to performance on the GRE Psychology test that I've used as a final exam for the course to assess achievement of the first psychology program objective dealing with general knowledge of psychology. Table 8 identifies the mean, range, standard deviation, scaled score and percentile rank of 1982-83 GRE Psychology Final Exam Scores for our Psychology Majors between 1987-1992.

Insert Table 8 about here

When reviewing these results it should be noted that prior to 1989, the course was only held for students in the day college and hence the low number of students taking this exam: starting in 1989 the course was held at night so that our Evening school majors could also take the test.

Notice first the largely linear increase in mean raw scores during the past six years, from approximately the 14th percentile in 1987 to the 51st percentile in 1992. There was also an increase

in variability from 1989 to 1990 as reflected in the range and standard deviation. Somehow the introduction of the GRE Bowl activity affected students differentially; some students benefited greatly from the exercise while others did not. Also notice how the percentile rank remained rather stable from 1987 to 1989 and then jumped from 20 to 51 from 1989 to 1990 with the introduction of the GRE Bowl. After a moderate decline to the 33rd percentile in 1991, mean performance increased again to the 51st percentile with the introduction of the GRE Barron's book in 1992. Overall, majors scored in the lower 1/3 of the nation on this test, although some students have raw scores in the upper quartile and even the 95th percentile.

This is a modest achievement given the obvious limitations of the GRE for program assessment purposes: (a) the GRE is not designed to assess job-related skills and abilities; (b) norms are based on students bound for graduate school and are not fully appropriate for non-graduate school oriented students; and (c) its multiple-choice format doesn't adequately assess higher-order thinking skills, or the other college-wide academic goals and psychology program objectives of interest.

On the positive side, the test does allow one to compare majors relative to other graduate school oriented majors nationwide, in terms of the level of their general knowledge of psychology. Furthermore, individual student scores can be analysed, item by item, to identify content domains in which

students do well or poorly. Using this procedure, I've discovered that our students tend to do well on the social science oriented questions (that deal with personality theory, therapies, psychological disorders, lifespan development, social psychology) and not so well on experimental or natural science oriented questions (that deal with learning, cognition, perception, sensation, and physiology.)

On the basis of this information, our department has offered courses in cognitive psychology, history and systems, and physiological psychology on alternate years since 1988. Subsequent increase in the number of questions students correctly answer in these areas have been observed as a result. We will be introducing a new course in Sensation and Perception next Spring to address deficits detected in this area as well. This is one way of how a nationally standardized exam like the GRE can be used to feedback improvements into the curriculum of the major.

In terms of other measures used in the course, results indicate that students' performance on the take-home and in-class tests are about 95%. Performance during the GRE Bowl, in the controversial issues debate, on the writing assignment, and in all the other teaching activities have been adequately assessed using an observational checklist composed of the outcome criteria.

Other kinds of assessment strategies have also testified to the success of the Seminar in meeting course goals and program objectives. According to alumni survey responses and requests for

letters of recommendations from students, I've been able to document an increase in the number of students applying and being admitted to graduate schools and who obtain job positions in the human services as a result of the skills imparted by this course. According to the course evaluations and in my discussions with majors in the seminar, students have also come to express an overall increase in the level of satisfaction with their undergraduate experience in psychology at the college.

Conclusion

A capstone course for psychology majors such as the Coordinating Seminar can be an effective vehicle for assessment of both your departmental goals and of college-wide institutional goals. It can tell you in what areas of the psychology curriculum your students are strongest and in what areas they are weakest. It can also help you prepare your majors for what lies before them after graduation. You'll be surprised what good such a course can do for your majors.

The Sermon of Nasrudin

I'd like to conclude with a story titled "The Sermon of Nasrudin" (Shah, 1985, p.21)

One Friday the people of the village in which Nasrudin lived went asked him to preach a sermon in their mosque so they could play a joke on him. Nasrudin agreed. After he mounted the pulpit, he said: "O people! Do you know what I am going to tell you?"

The congregation answered, "No, we do not know." Nasrudin

replied, "Until you know, I cannot say." He then descended from the pulpit and went home.

Slightly chagrined, the congregation went to his house again, and asked him to preach the following Friday. When the day came, Nasrudin began his sermon with the same question as before: "O people! Do you know what I am going to tell you?"

This time the congregation said: "Yes, we know." Nasrudin replied, "In that case, there is no need for me to detain you any longer. You may go." He then returned home.

Not to be outdone, the villagers prevailed upon Nasrudin one more time to preach at the next Friday day of prayer. On the appointed day Nasrudin again began his sermon: "O people! Do you know or do you not know what I am going to tell you?"

This time the congregation replied, "Some of us do, and others do not." Nasrudin said, "Excellent! Then let those who know communicate their knowledge to those who do not." And off to home he went.

I'm the last speaker and this is the end of my presentation. Let those of us who know about the issues of assessment in the classroom communicate our knowledge to those do not. Thank you for your attention.

References

Adelman, C. (Ed.). (1986). Assessment in American higher education: Issues and contexts. Washington, DC: U.S. Government Printing Office. (Office of Educational Research and Improvement, No. OR 86-301)

American Association for Higher Education Assessment Forum. (1993, January). Principles of good practice for assessing student learning. Washington, DC: American Association for Higher Education.

Angelo, T. A., & Cross, K. P. (1993). Classroom assessment techniques: A handbook for college teachers. (2nd ed.). San Francisco, CA: Jossey-Bass.

Appelbaum, M. (1988). Assessment through the major. In C. Adelman (Ed.), Performance and judgment: Essays on principles and practice in the assessment of college student learning. (pp. 117-137.). Washington, DC: U.S. Government Printing Office. (Office of Educational Research and Improvement)

Association of American Colleges. (1992). Program review and educational quality in the major: A faculty handbook. Washington, DC: Association of American Colleges.

Baum, C. G. (1992, June 24). An Open Letter to Psychology Department Chairs. (Available from the Education Directorate, APA, 720 First Street, NE, Washington, DC 20002-4242).

Educational Testing Service. (1987). Assessing the outcomes of higher education (Proceedings of the 1986 ETS Invitational

Conference). Princeton, NJ: Educational Testing Service.

Eison, J. (1987, Winter). Assessing learning outcomes. Journal of Staff, Program, and Organizational Development, 5(4), 149-154.

Eison, J., & Palladino, J. (1988, September). Psychology's assessment role. APA Monitor, p. 31.

Ewell, P. (Ed.). (1985, September). Assessing educational outcomes. New Directions for Institutional Research, no. 47. San Francisco, CA: Jossey-Bass.

Halpern, D. F. (Ed.). (1987). Student outcomes assessment: What institutions stand to gain. San Francisco, CA: Jossey-Bass. (New Directions for Higher Education, no. 59)

Halpern, D. F. (1988). Assessing student outcomes for psychology majors. Teaching of Psychology, 15(4), 181-186.

Matthews, J. R. (1982). Evaluation: A major challenge for the 1980's. Teaching of Psychology, 9(1), 49-52.

McGovern, T. V., Furumoto, L., Halpern, D. F., Kimble, G. A., & McKeachie, W. J. (1991, June). Liberal education, study in depth, and the arts and sciences major-Psychology. American Psychologist, 46(6), 598-605.

Rossmann, J. E., & El-Khawas, E. (1987, June). Thinking about assessment: Perspectives for presidents and chief academic officers. Washington, DC: American Association for Higher Education.

Shah, I. (1985). The exploits of the incomparable Mulla Nasrudin. London, England: The Octagon Press. (Original work published in

1966)

U.S. Department of Education. (1984). Involvement in learning: Realizing the potential of American higher education. Washington, DC: USDE.

Table 1

SIGNIFICANT DEVELOPMENTS IN THE NATIONAL ASSESSMENT OF HIGHER EDUCATION

1984 -- Involvement in learning: Realizing the potential of American higher education
(U.S. Department of Education, 1984)

1985 -- National Conference on Assessment in Higher Education
(University of South Carolina at Columbia)
(Adelman, 1986)

1985 -- Assessing educational outcomes (Ewell, 1985, September)

1987 -- Student outcomes assessment: What institutions stand to gain (Halpern, 1987)

1987 -- Thinking about assessment: Perspectives for presidents and chief academic officers
(American Association for Higher Education)
(Rossman & El-Khawas, 1987)

1987 -- Institutional Research Program for Higher Education (ETS)
-- Program Self-Assessment Service (ETS)
-- Major Field Achievement Tests (ETS/GRE Board)
(ETS, 1987)

1988 -- Performance and judgment: Essays on principles and practice in the assessment of college student learning
(Office of Educational Research and Improvement)
(see Appelbaum's "Assessment through the major")

1992 -- Program review and educational quality in the major: A faculty handbook
(Association of American Colleges, 1992)

1993 -- "Principles of good practice for assessing student learning"
(American Assoc. for Higher Education Assessment, 1993)

Table 2

SIGNIFICANT DEVELOPMENTS IN THE NATIONAL ASSESSMENT OF THE PSYCHOLOGY MAJOR

1982 -- "Undergraduate Education in the Next Decade" (Teaching of Psychology special 1982 edition)

1987 -- "Developing and evaluating undergraduate psychology programs" (95th Annual Convention of APA)

1987 -- "Assessing student outcomes" (Eison, 1987)

1988 -- "Assessing student outcomes for psychology majors" (Halpern, 1988)

1988 -- "Psychology's assessment role" (Eison & Palladino, 1988)

1990 -- Founding of the Council of Undergraduate Psychology Programs (CUPP), sponsor of symposia on assessment

1991 -- "Liberal Education, Study in Depth, and the Arts and Sciences Major -- Psychology" (McGovern, Furumoto, Halpern, Kimble, & McKeachie, 1991)

1991 -- APA National Conference on Enhancing the Quality of Undergraduate Education in Psychology (St. Mary's College of Maryland)

1992 -- National Data Base of Undergraduate Psychology Programs (APA's Office of Demographic, Employment, and Educational Research).

Table 3

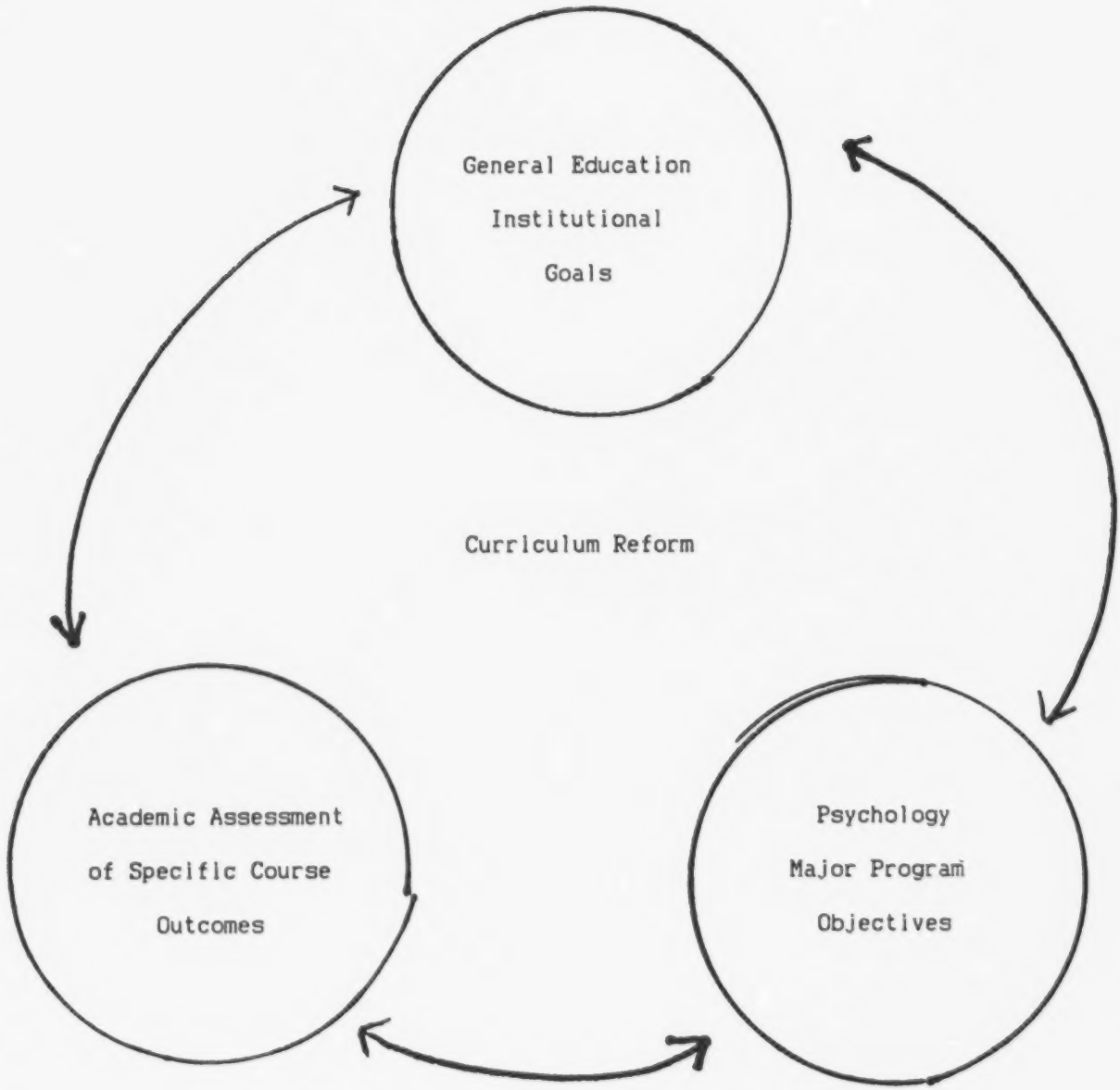
General Education
Institutional
Goals
Curriculum Reform
Academic Assessment
of Specific Course
Outcomes
Psychology
Major Program
Objectives

Table 4

Comparison of Academic Goals with Assessment Standards

College-Wide Academic Goals **What we hope to achieve**	Standards for Academic Assessment **What we say we assess**
1. Help an individual live a creative, generous, and intellectually rewarding life	
2. Promote ethical thinking and a strong commitment to social justice	▸ the ability to <u>make and support value judgments</u> about the social or ethical implications of course material or <u>judge</u> between competing solutions
3. Foster a sense of the sacred, particularly as expressed through the Catholic tradition, and an understanding of what it means to be truly human	
4. Develop the ability to place oneself, one's discipline, and one's society in historical, cultural, and global perspective.	▸ the ability to <u>apply</u> information, concepts, or skills from one part of the course to other areas and <u>solve problems</u> using this knowledge or these skills ▸ the ability to <u>synthesize</u> course material—discovering larger patterns or relationships, discriminating among multiple views, and/or viewing the subject within a cross-disciplinary or global perspective
5. Develop the ability to reason critically, both verbally and quantitatively, and use sound judgment	▸ the ability to <u>think critically</u> about course material in the light of other information, theories, or points of view—demonstrating an awareness of the implications and limitations of any one perspective or approach
6. Develop the capacity for precise and articulate communication—written, oral, visual, and quantitative.	▸ the ability to <u>communicate</u> one's understanding and knowledge with clarity and persuasiveness— orally, visually, quantitatively and/or in writing
7. Develop an understanding of the special disciplinary approaches and contributions of the arts and sciences	▸ an <u>understanding</u> of course content—the information, concepts, theories, or skills required of the specific subject and discipline

RIVIER COLLEGE
STUDENT QUESTIONNAIRE REGARDING INSTRUCTION

TABLE 5

Evaluation responses are valued for two purposes: (1) to evaluate the teaching/learning process and (2) to help in the assessment of basic skills and competencies that are part of the educational goals of Rivier College

---

Course Number/Title _____ Year_____
Instructor:_____ Fall____ Spring ____ Summer ____

---

* Put an "X" in the Appropriate Column*

	Strongly Agree	Agree	Disagree	Not Applicable
COURSE CONTENT				
1. The course was planned carefully.				
2. The way that this course was organized facilitated the learning process.				
3. Course objectives were clear.				
4. Course objectives - as outlined - were met.				
5. The text(s) used contributed to my understanding of the subject				
6. Classroom references to the text(s) were adequate.				
REQUIREMENTS				
7. Projects, papers, exams, and assignments were explained so that I understood what was required.				
8. Course requirements addressed material or skills emphasized in the course.				
9. The amount of work required was appropriate.				
10. Examination questions were phrased clearly.				
11. Feedback on student work was adequate and prompt.				
12. Office hours or appointment times were available or easily arranged.				
CLASSROOM				
13. Classes began and ended on time.				
14. The instructor was responsive to student needs.				
15. The classroom atmosphere encouraged discussion and questions.				
16. I was able to express opinions and ideas that differed from those of others.				
LEARNING OBJECTIVES				
The course:				
17. helped me to improve writing skills				
18. helped me to improve speaking skills.				
19. helped me to improve critical thinking skills.				
20. helped me to clarify my personal values				
21. helped me to appreciate sex/gender issues or sex/gender perspectives, within the discipline.				
22. helped me to become more aware of global and multicultural issues.				

Table 6

PSYCHOLOGY PROGRAM EDUCATIONAL OBJECTIVES

Each graduate in Psychology should show, in measurable ways, the following knowledge and abilities:

1. Knowledge of (a) technical terminology and specific facts,
   (b) literary forms and conventions,
   (c) historical trends and sequences,
   (d) organizational classifications and categories,
   (e) evaluative criteria and methods of inquiry, and
   (f) major theories, principles, and generalizations within the field of psychology.

(e.g., History and Systems: "describe major historical developments in psychology") (College-Wide Academic Goals 4 and 7)

2. Ability to translate, interpret and extrapolate psychological information.

(e.g., Social Psychology: "read, abstract, and interpret social psychological research") (College-Wide Academic Goals 5 and 7)

3. Ability to apply knowledge of psychology to particular and concrete situations.

(e.g., Health Psychology: "relate psychological principles, concepts, and laws to health issues") (College-Wide Academic Goals 4, 5, and 7)

4. Ability to analyze psychological information into its elements, relationships, and organizational principles.

(e.g., Statistics: "perform statistical analyses") (College-Wide Academic Goals 5 and 7)

5. Ability to synthesize psychological information in the production of a unique written or oral communication, plan or set of hypotheses.

(e.g, Experimental Psychology: design an original research proposal") (College-Wide Academic Goals 5 and 6)

6. Ability to evaluate the value of psychological information and methods for understanding human experience and behavior using quantitative and qualitative criteria.

(e.g., General Psychology: "analyze, evaluate, and discuss opposing viewpoints on controversial issues in psychology") (College-Wide Academic Goals 1, 2, and 3)

Table 7

Table 7. Sample Course Learning Outcomes, Psychology Program Objectives, and College-Wide Academic Goals.

Course Learning Outcome 1
"recognize and define psychological terminology and identify important features of major psychological concepts and theories."
Psychology Program Objective 1
"knowledge of technical terminology and specific facts, major theories, principles, and generalizations."
College-Wide Goal 1
"develop an understanding of the special disciplinary approaches and contributions of the arts and sciences."

Course Learning Outcome 2
"interpret psychological data from a variety of alternative perspectives."
Psychology Program Objective 2
"ability to translate, interpret and extrapolate psychological information."
College-Wide Goal 4
"develop the ability to place oneself, one's discipline, and one's society in historical, cultural, and global perspective."

Course Learning Outcome 3
"communicate acquired knowledge of psychological concepts, principles, and theories with clarity and substance both orally and in writing."
Psychology Program Objective 5
"ability to synthesize psychological information in the production of a unique written or oral communication, plan or set of hypotheses."
College-Wide Goal 6
"develop the capacity for precise and articulate communication--written, oral, visual, and quantitative."

Table 8

MEAN, RANGE, STANDARD DEVIATION, SCALED SCORE AND PERCENTILE RANK OF GRE PSYCHOLOGY FINAL EXAM SCORES FOR PSYCHOLOGY MAJORS ASSESSED BETWEEN 1987-1992.

	Year of Testing						
	1987	1988	1989	1990*	1991	1992**	T/A
No. of Students	4	2	8	9	16	10	49
Mean Raw Score	54	58	59	84	70	85	72
Range	46-71	48-68	39-79	58-117	35-104	52-129	35-129
Standard Dev.	10.16	10.00	11.50	19.89	16.88	24.00	20.97
Scaled Score	430	450	450	540	490	540	490
Percentile Rank	14	20	20	51	33	51	33

* GRE Bowl introduced

** GRE Barron's Study Guide introduced

APPENDIX

PSY 408-E COORDINATING SEMINAR Spring 1993
Wednesday 6:30- 9:00 p.m. Dr. Paul Cunningham
Campus Office: Regis Hall. Room F (ext. 8272) Home Office: (603) 673-7389

I. COURSE DESCRIPTION
A review and coordination of the subject matter acquired throughout the undergraduate experience focusing on career opportunities, graduate school preparation, and controversial issues in the field.

II.TEXTS
A. Required
1. Atkinson, R. L., Atkinson, R. C., Smith, E. E., & Bem, D. J. (1993). Introduction to psychology (11th ed.). New York: Harcourt Brace Jovanovich. This text is considered by many to be the most authoritative and comprehensive introductory text. Therefore, it is chosen for our review.
2. Rubinstein, J. & Slife, B. (Eds.). (1992). Taking sides: Clashing views on controversial psychological issues (7th ed.). Guilford, CT: Dushkin. This book is specifically designed to stimulate critical thinking and initiate lively and informed dialogue on psychological issues.
3. Palmer, Edward L. (1989). GRE psychology: How to prepare for the Graduate Record Examination in psychology. New York: Barron's Educational Series. This study guide is designed to provide a comprehensive review of the main areas in psychology, help identify topics with which you may be least familiar and on which you should concentrate, and aid you in your final exam preparation.

B. Recommended
1. Keith-Spiegel, P. (1991). The complete guide to graduate school admission. Hillsdale, NJ: Lawrence Erlbaum. This step-by step guide provides extremely useful information about how to successfully select and gain admission into master's and doctoral programs.

III. INSTRUCTIONAL GOALS and LEARNING OBJECTIVES
A. Instructional Goals. The instructional goals of this course are to:
1. review and coordinate information about psychology that majors have acquired throughout their undergraduate experience:
2. provide Psychology majors an opportunity to develop their ability to think critically and use sound judgment by discussing current controversial issues in psychology;
3. help graduating seniors develop resume writing, interviewing and job search skills appropriate to applied fields in psychology:
4. encourage graduate school and career exploration/research prior to graduation.

B. Learning Objectives/ Skills/ Competencies. After completing this course the student should be able to:
1. recognize and define basic psychological terminology and identify important features of major psychological concepts and theories:
2. interpret psychological data from a variety of alternative perspectives:
3. communicate acquired knowledge of psychological concepts, principles, and theories with clarity and substance both orally and in writing:
4. write a research report using American Psychological Association (APA) style format:
5. identify, critically evaluate, and debate ethical problems and controversial issues within the profession of psychology, distinguishing between

conclusions supported by logical or empirical evidence and conclusions based on opinion:
6. compose a professional resume:
7. describe and demonstrate interviewing and job search skills:
8. give examples of career opportunities in psychology;
9. describe the graduate school application process.

IV. TEACHING STRATEGIES and OUTCOMES ASSESSMENT CRITERIA
The teaching strategies designed to help facilitate students' progress toward specific objectives and the criteria employed to give evidence of learning goal achievement are described below.

A. Weekly Review Tests/ GRE Psychology Test Final Exam/ GRE Challenge Bowl.
Weekly take-home tests, in-class tests, the GRE final examination, and the GRE Challenge Bowl are employed to provide students the opportunity to achieve learning objective 1 (i.e., to recognize and define basic psychological terminology and identify important features of major psychological concepts and theories).

1. Teaching Strategies
   a. Weekly Review Tests. Students are administered 13 weekly take-home and in-class tests. Each test is based on one and one-half chapters of the Atkinson et al. psychology text. In-class tests are composed of items sampled from the take-home tests. These tests provide an opportunity to (1) assess students' knowledge of the chapters reviewed, (2) help guide students in reviewing their knowledge of major areas of psychology, and (3) prepare students for taking the Graduate Record Examination (GRE) Psychology Test as a final examination. Students are prohibited from making copies of tests or answer sheets.

   b. GRE Psychology Final Exam. The final examination is an actual 1982-83 GRE Psychology Achievement Test. This test is used to assess students' overall knowledge of the major areas of psychology and to compare their performance with national norms.

   c. GRE Challenge Bowl. Students will come to a clearer understanding about the range of topics included in the GRE Psychology Test by participating in a "GRE Challenge Bowl," an activity simulating the "College Bowl" TV quiz show. Two comparable groups of students formed on the basis of grade point average compete for points as they answer sample questions from an actual 1988-89 GRE Psychology Test. Each group gets to answer a question. If one group misses a question, the other group gets to answer it and then their own. The group that answers the most questions correctly by the end of the semester gets first choice of selected psychology books made available by the instructor.

2. Outcome Assessment Criteria
   The learning outcome is evaluated on the basis of the student's ability to:
   a. recognize, identify, define or distinguish vocabulary terms, factual information, historical developments, current specializations, contemporary approaches and perspectives, scientific procedures, therapeutic treatments, and fundamental theories and laws in the field of psychology:

b. recognize correct illustrations or examples of psychological definitions or principles;
c. select the "best" definition of a psychological concept;
d. illustrate psychological principles by giving examples;
e. apply psychological propositions and generalizations to an actual (or fictional) situation;
f. supply or recognize inferences which may be drawn from a psychological principle or generalization;
g. compare or contrast psychological perspectives on a problem;
h. actively contribute his/her own "guess" and argues intelligently for his/her own views during the GRE Bowl activity.

B. Writing Assignment: Complementary Perspectives. The writing project on complementary perspectives in psychology is employed to provide students the opportunity to achieve learning objectives 2-4 (i.e., interpret psychological data from a variety of alternative perspectives; communicate acquired knowledge of psychological concepts, principles, and theories with clarity and substance both orally and in writing; write a research report using APA style format).

1. Teaching Strategy

Writing Assignment: Complementary Perspectives. Students will be assigned a current newspaper article or magazine article that describes some example of human behavior. Students will type an essay (minimum six pages, APA editorial style) that explains how a psychologist might explain the behavior from each of the five major approaches to the modern study of psychology (i.e., biological, psychoanalytic, behavioral, cognitive, and phenomenological). The idea that different perspectives are not necessarily contradictory but can in fact complement one another is important and can be further developed through this activity.

2. Outcome Assessment Criteria

Learning outcomes are evaluated on the basis of the student's ability to:
a. set up a logically consistent scheme for classifying or interpreting a sample behavior in terms of five psychological perspectives;
b. translate the meaning of each perspective into his/her own words;
c. recognize the primary issues of each perspective and gather/ assess appropriate supporting materials;
d. supply or recognize inferences which may be drawn from each of the perspectives;
e. compare and contrast each perspective;
f. organize ideas effectively;
g. formulate ideas in an interesting fashion (i.e., a lackluster job may indicate a poor understanding of the perspective or little preparation and effort);
h. demonstrate familiarity with the literary forms and conventions of editorial style as it is applied in American Psychological Association (APA) journals.

C. Debate of Controversial Issues in Psychology/ Supplementary Library Resource Readings. The controversial issues debate activity and supplementary library resource readings are employed to provide students the opportunity to achieve learning objective 5 (i.e., identify, critically evaluate, and debate ethical problems and controversial issues within the profession of psychology.

distinguishing between conclusions supported by logical or empirical evidence and conclusions based on opinion).

1. Teaching Strategies

a. "Change-Your-Mind" Debate of Controversial Issues in Psychology. The "change-your-mind" debate technique basically involves having students who clearly feel one way or the other on each controversial issue sit on opposite sides of the classroom and debate the issue back and forth. Undecided students form a third group that also participates by asking questions or challenging assertions. Students are free to change their minds as the debate progresses. When they do, they show the change by moving to the appropriate section of the room. The seating pattern thus reflects the tide of thinking at any given moment.

The aim is not to win the debate but to explore the issue vigorously. Students are thus continuously probed about their responses: Are you sure? Are you making a judgment that others might not agree with? Are their other alternatives? Have you considered other possibilities? Have you examined your own motives here? Do you have enough data for the conclusions you are making?

This activity provides students the opportunity to: (1) examine the relationship between psychological concepts and controversial psychological issues, and (2) work out evaluative criteria and personal resolutions of the issues and clarify personal values without locking them into positions they may not feel comfortable with as the debate progresses.

b. Supplementary Library Resource Readings. Journal articles, book chapters, and other sources of current information about controversial issues discussed in class will be placed on pressure reserve at Regina Library on a weekly basis. Students are required to read these supplementary materials in addition to the assigned weekly readings.

2. Outcome Assessment Criteria

The learning outcome is evaluated on the basis of the student's ability to:

a. identify conclusions and supporting statements;
b. identify logical fallacies in arguments;
c. identify what unstated assumptions are involved in what is said;
d. recognize the point of view or bias of a writer in a psychological account;
e. distinguish fact from hypothesis and opinion;
f. distinguish relevant from extraneous material;
g. note how one idea relates to another;
h. recognize and weigh values involved in alternative arguments;
i. identify and appraise alternative beliefs critically;
j. cite the specific points in each issue which are accurate or inaccurate as well as the reasons why they are judged in that way
k. assess the general accuracy of facts;
l. judge the logical accuracy of statements in relation to the stated conclusions;
m. make a connection between textbook information and supplementary library reading material.

D. Career Development Workshops/ Alumni Guest Speaker Presentations.
The resume and interview workshop videos, resume critique, mock interview, and alumni guest speaker presentations are employed to provide students the opportunity to achieve learning objectives 6-8 (i.e., compose a professional resume: describe and demonstrate interviewing and job search skills: give examples of career opportunities in psychology).

1. Teaching Strategies
   a. Resume and Interview Skills Videotapes, Resume Critique, Mock Interview. The Director of the Career Development and Placement Office (CDPO) will speak to students about the services offered by that Office and sponsor a series of workshops dealing with resume writing, interviewing, and job searching skills. These sessions will be tailored for you as a Psychology major. Formal requirements of this course are that students:
      (1) view the resume writing workshop videotape before February 10 (available from the CDPO):
      (2) submit a professional resume on February 17 for critique by the CDPO:
      (3) view the interview skills workshop videotape (available from the CDPO);
      (4) participate in a videotaped "mock interview" at the CDPO.

   b. Alumni Guest Speaker Presentations. Rivier Alumni will speak about "life after Rivier," including their personal educational and career experiences as well as about more general job oppportunities for Psychology majors graduating with a liberal arts degree.

2. Outcome Assessment Criteria
   Learning outcomes are evaluated on the basis of the student's ability to:
   a. use the information provided by the CDPO to generate her/his own insights and applications in the writing of a professional resume and in one's conduct during the mock interview:
   b. appear attentive, ask clear and constructive questions, answer questions intelligently, and build on others' ideas during CDPO and guest speaker presentations.

F. Classroom Lectures and Class Participation. The weekly classroom lectures and participation in class activities/exercises are employed to provide students additional opportunities to achieve learning objectives 1-9 (including describing the graduate school application process).

1. Teaching Strategy
   A. Weekly Classroom Lectures and Class Participation. In conjunction with handouts, overhead transparencies, computer simulations, and videotapes, classroom lectures and exercises will provide the instructor an opportunity to (1) highlight key ideas or questions regarding the graduate school application process, (2) present examples to clarify abstract or difficult textbook material, (3) provide exercises so students can practice using the material presented in class, and (4) make clear how information presented in the course might be used in everyday life.

2. Outcome Assessment Criteria
Learning outcomes are evaluated on the basis of the student's ability to:
   a. appear attentive and prepared to recite in class her/his understanding of current course material, complete homework assignments on time, and actively participate during classroom activities, frequently voicing one's own views and opinions.
   b. demonstrate the ability to understand the graduate school application process when asked to do so both orally and in writing.

V. COURSE REQUIREMENTS and GRADING WEIGHTS SUMMARY

Course Requirements	Grading Weights
Take-home tests	20%
In-class tests	25%
Final Examination	15%
GRE Challenge Bowl	5%
Writing Assignment	10%
Debate of Controversial Issues	10%
Supplementary Library Resource Readings	3%
Writing Resume Workshop video	1%
Interview Skills Workshop video	1%
Resume Critique	3%
Mock Interview	4%
Lectures/Class Participation	3%
Total =	100%

VI. CLASSROOM POLICIES
   A. Attendance. Following college policy, a record of attendance will be made. It is common courtesy to notify the professor in the event of leaving in the middle of class, prolonged illness, accident or similar emergency.
   B. Make-up Policy. There are no makeups for missed in-class tests or homework assignments. You are strongly encouraged to take all tests and do all homework assignments as scheduled. Special arrangements for unusual circumstances are solely at the discretion of the professor.

VII. COURSE OUTLINE and SCHEDULE

Date	Class Topics / Tests / Homework / Due Dates
January 20	- Introduction to the Course - GRE Challenge Bowl
Homework------	Read Chap. 1 (entire) and One-Half of Chapter 2; do take-home test 1-A. - Read Introduction and controversial Issue 3 in Taking Sides
January 27	- Take-home Test 1-A due / In-class Test 1-A - Can Experiments Using Animals Be Justified? (Issue 3) - GRE Challenge Bowl
Homework------	Read remainder of Chap. 2 and Chap. 3 (entire); do take-home Test 2-A. - Read controversial Issue 12 or 13 (class choice)

February 3 - Take-home Test 2-A due / In-class Test 2-A
- Are Children of Divorced Parents at Greater Risk? (Issue 12) or
- Should Adolescents Be Allowed to Make Decisions About Abortions Without Parental Involvement? (Issue 13)
- GRE Challenge Bowl

Homework------ Read Chap. 4 (entire) and One-Half of Chap. 5; do take-home Test 3-A.
- Read controversial Issue 7

February 10 - Take-home Test 3-A due / In-class Test 3-A
- Has Science Discredited ESP? (Issue 7)
- GRE Challenge Bowl

Guest Speaker: Sue Posluszny, Director of CDPO
Last day to view the RESUME WRITING video

Homework------ Read remainder of Chap. 5 and Chap. 6 (entire); do take-home Test 4-A.
- Read controversial Issue 19

February 17 - Take-home Test 4-A due / In-class Test 4-A
- Would Legalizing Drugs Have Beneficial Effects on Society? (Issue 19)
- GRE Challenge Bowl

Professional RESUME due today

Homework------ Read Chaps. 7, 8, and 9; do take-home Test 5-A and 6-A
- Read controversial Issue 10

February 24 - WINTER VACATION

March 3 - Take-home Test 5-A and 6-A due / In-class Tests 5-A and 6-A.
- Do Gender Differences Originate from Biological Factors? (Issue 10)
- GRE Challenge Bowl
- **RESUME CRITIQUE** (Career Development Workshop)

Homework------ Read Chap. 10 (entire) and One-Half Chap. 11; do take-home Test 7-A.
- Read controversial Issue 8

March 10 - Take-home Test 7-A due / In-class Test Test 7-A
- Can Computers Help Us Understand the Human Mind? (Issue 8)
- GRE Challenge Bowl

Homework------ Read remainder of Chap. 11 and Chap. 12 (entire); do take-home Test 8-A.
- Read controversial Issue 9

March 17 - Take-home Test 8-A due / In-class Test 8-A
- Class Demonstration: Lie Detection and the GSR
- Can Intelligence Be Increased? (Issue 9)
- GRE Challenge Bowl

Homework------ Read Chaps. 13, 14, and 15; do take-home Tests 9-A and 10-A.
- Read controversial Issue 6

March 24 No Class (See regular homework assignments)

March 31 - Take-home Test 9-A and 10-A due / In-class Tests 9-A and 10-A.
- Is Our State of Mind Responsible for Our State of Health? (Issue 6)
- GRE Challenge Bowl
Homework------ Read Chap 16 (entire) and One-Half of Chap. 17: do take-home Test 11-A.
- Read controversial Issue 14

April 7 - Take-home Test 11-A due / In-class Test 11-A
- Should Psychotherapists Allow Suicide? (Issue 14)
- GRE Challenge Bowl
Homework------ Read remainder of Chap. 17 and Chap. 18 (entire); do take-home Test 12-A.
- Read controversial Issue 16

April 14 - Take-home Test 12-A due / In-class Test 12-A
- Should Psychotherapy Include Religious Values? (Issue 16)
- GRE Challenge Bowl
"Complementary Perspectives in Psychology" WRITING ASSIGNMENT due today.
Homework------ Read Chap. 19 (entire); do take-home Test 13-A.
- Read controversial Issue 1

April 21 - Course Evaluations
- Take-home Test 13-A due / In-class Test 13-A
- Can Deception in Research Be Justified? (Issue 1)
- GRE Psychology Test Final Examination (Part I) (50 minutes)
Last day to view the Interview Skills video and conduct the Mock Interview

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Final Examination: GRE Psychology Test (continued) (2 hours)

The above objectives, requirements, and schedule are subject to change in the event of extenuating circumstances.

VIII. BIBLIOGRAPHY

American Psychological Association. (1983). Publication manual of the American Psychological Association. (3rd ed.). Washington, DC: Author.

American Psychological Association. (1992). Graduate study in psychology and associated fields. Washington, DC: Author.

American Psychological Association. (1987). Casebook on ethical principles of psychologists. Washington, DC: Author.

Anonymous. (1992). Change-your-mind debate. The National Teaching and Learning Forum, 1 (3), 9.

Bolles, R. N. (1982). What color is your parachute? A practical manual for job-hunters and career changers. Berkeley, CA: Ten Speed Press.

Fretz, B. R., & Stang, D. U. (1980). Preparing for graduate study in psychology: Not for seniors only! Washington, DC: American Psychological Association.

Fulkerson, F., & Martin, G. (1981). Effects of exam frequency on student performance, evaluations of instructor, and test anxiety. Teaching of Psychology, 8(2), 90-93.

Furchott, E. (1983). General psychology as a terminal review and integrative course. Teaching of Psychology, 10(1), 50-51.

Gorman, M.E., Law, A., & Lindegren, T. (1981). Making students take a stand: Active learning in introductory psychology. Teaching of Psychology, 8(3), 164-166.

Lattal, K. A. (1980). 'Psychology as a profession': A brief course providing career information for Psychology majors. Teaching of Psychology, 7(4), 243-244.

Lewin, L. M. & Wakefield, J., Jr. (1983). Teaching psychology through an instructor-debate format. Teaching of Psychology, 10(2), 115-116.

Mawhinney, V.T., Bostow, D.E., Laws, D.R., Blumenfeld, G.J., & Hopkins, B.L. (1971). A comparison of students studying-behavior produced by daily, weekly, and three-week testing schedules. Journal of applied behavior analysis, 4, 257-264.

McCallum, L. W. (1983). Use of a senior comprehensive exam in evaluation of the psychology major. Teaching of Psychology, 10(2), 67-69.

McGovern, T. V., Furumoto, L., Halpern, D. F., Kimble, G. A., & McKeachie, W. J. (June, 1991). Liberal education, study in depth, and the Arts and Sciences major -- psychology. American Psychologist, 46(6), 598-605.

Nowaczyk, R. H., & Frey, J. D. (1982). Factors related to performance on the GRE advanced psychology test. Teaching of Psychology, 9(3), 163-165.

Solso, R. L. (December, 1987). "Recommended readings in psychology over the past 33 years." American Psychologist, 1130-1131.

Ware, M. E., & Meyer, A. E. (1981). Career versatility of the Psychology major: A survey of graduates. Teaching of Psychology, 8(1), 12-15.

Ware, M. E., & Millard, R. J. (1987). Handbook on student development: Advising, career development, and field placement. Hillsdale, NJ: Lawrence Erlbaum.

Woods, P. J. (ed.). (1988). Is Psychology for them? A guide to undergraduate advising. Washington, DC: American Psychological Association.